PCM-2300

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model

Model Name Using Similar Mechanism	DTC-57ES/750
Tape Transport Mechanism Type	DATM-100

TABLE OF CONTENTS

使用時は添付資料も参照のこと
Refer to the additional documents.

DIGITAL AUDIO RECORDER

SONY®

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÉCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER SES COMPOSANTS QUE PAR DES PIÉCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

PRECAUTIONS FOR INSPECTIONS AND REPAIR WITH POWER OFF

Before beginning repair work after turning OFF the main switch, be sure to first remove CN932 (EH8P) of the power board. When assembling the equipment, be sure to plug this connector last.
This is because, even with the main switch turned OFF, electric charges still remain in the smoothing capacitor in the power board. Therefore, if another flexible board is inserted or removed, a terminal of the power supply may short an adjacent terminal while destroying the device.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig.A)

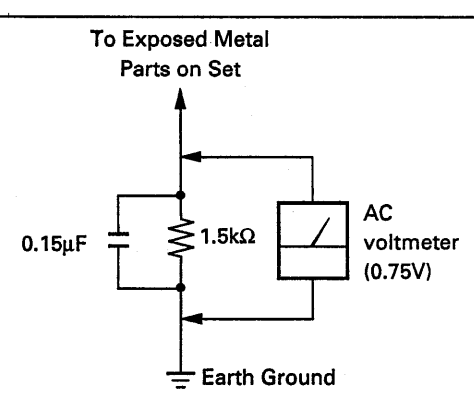


Fig. A. Using an AC voltmeter to check AC leakage.

CAUTION
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

ADVERSEL !
Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Lever det brugte batteri tilbage til leverandcren.

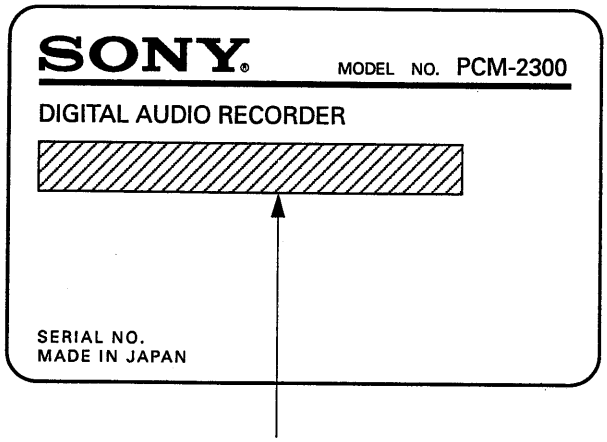
ADVARSEL
Lithiumbatteri – Eksplosjonsfare.
Ved utskifting benyttes kun batteri som
anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleveranderen.

VARNING
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ
som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

MODEL IDENTIFICATION

– SPECIFICATION LABEL –



US,Canadian model : AC 120V 60Hz 33W
AEP, UK model : AC 220-240V~ 50/60Hz

This section is extracted from instruction manual.

SECTION 1
GENERAL

8-3 Specifications

General

Power requirements		USA/Canada model: 120 V AC ±10 %, 60 Hz Europe/UK model: 220 to 240 V AC ±10 %, 50/60 Hz
Power consumption		USA/Canada model: 33 W Europe/UK model: 37 W
Operating temperature		5°C to 40°C (41°F to104°F)
Storage temperature		-20°C to +55°C (-4°F to131°F), without moisture condensation
Weight		7.2 kg (15 lb 14 oz)
Dimensions		430 x 125 x 350 mm (W/H/D) (17 x $4^{15}/_{16}$ x $13^{7}/_{8}$ inches), without the rack mount adaptor

Digital audio input and output section

Number of record channel	2 channels
Sampling frequency	48 kHz, 44.1 kHz, 32 kHz
Quantization	16-bit linear/12-bit non-linear
Error correction	Double-encoded Reed Solomon code
Modulation system	8-10 modulation

Tape recording section

Format	IEC digital audio tape cassette system DAT for professional use
Head	Rotary head (2-head) (REC/PB x 2)
Drum rotation	2000 rpm (standard recording)
Tape speed	8.15 mm/sec. (standard mode) 4.075mm/sec. (long-play mode)
Track pitch	13.6μm
Tape	Digital audio tape
Recording time	120 minutes (standard mode) 240 minutes (long-play mode) (with tape type DT-120)

Mechanical section

Fast-forward/rewind	Within 60 seconds (with tape type DT-120)
Rise time	1.0 seconds or less (pause → play) 2.0 seconds or less (stop → play)
Searching speed	150 times max. normal playback speed
Cue/review speed	Approx. ±3, ±8 times normal playback speed

Input/output interface

Analog input

Connector	XLR-3-31
Reference level	+4 dBs (factory set)
Maximum level	+24 dBs
Input impedance	Approx. 10 kilohms, balanced
Adjustable range	-12 dBs to +8 dBs

Analog output

Connector	XLR-3-32
Reference level	+4 dBs (load impedance 10 kilohms) (factory set)
Maximum level	+24 dBs
Output impedance	Less than 50 ohms, balanced
Load impedance	More than 600 ohms
Adjustable range	-12 dBs to +8 dBs

Digital input

Connector	RCA phono jack
Format	IEC958 digital audio interface (Broadcasting studio use/consumer use)
Input impedance	75 ohms, unbalanced
Lock range	±0.1 % (each sampling frequency)

Digital output

Connector	RCA phono jack
Format	IEC 958 digital audio interface (Broadcasting studio use)
Output impedance	75 ohms, unbalanced
Load impedance	75 ohms

Headphones output

Connector	Stereo standard jack
Reference level	-27 dBs (load impedance 8 ohms) (PNONE LEVEL: maximum)
Output impedance	Approx. 100 ohms
Load impedance	More than 8 ohms

REMOTE

Connector	Standard Phone Jack
Format	Serial
Input level	C-MOS level

Audio section

Frequency characteristic	
	20 Hz to 20 kHz, ± 0.5 dB (standard mode)
	20 Hz to 14.5 kHz, ± 0.5 dB (long-play mode)
Signal-to-noise ratio	More than 86 dB (with A-weight filter)
Total harmonic distortion	
	Less than 0.07 % (standard mode)
	Less than 0.3 % (long-play mode) (at reference level, 1 kHz)
Wow and flatter	Below measurable limit (± 0.001 %, W. Peak)

Note
The reference level is the level at -20 dB from the full bit on the peak level meter scale.

Accessories

Wireless/wired remote commander (RM-D2300)

Remote control system	Infrared pulse control/wired control
Power requirements	3 V DC, with two size AA (R6) batteries
Dimensions	Approx. 63x19x175 mm (w/h/d) ($2^1/_2 \times {}^3/_4 \times 7$ inches)
Weight	Approx. 130 g (4 oz) incl. batteries

Supplied accessories
Wireless/wired remote commander RM-D2300 with commander cable (1)
Sony batteries SUM-3 (NS) (size AA (R6)) (2)
AC power cord (1)
Rack mount adaptor (2)
Screws (M3x28) (4)
Screws (M5x12) (4)
Decorative washers (4)
Operation manual (1)
Warranty card (1) (USA/Canada model only)

Accessories recommended (Optional)
Cleaning cassette DT-10CL

Design and specifications are subject to change without notice.

1-1 Principal concepts

The PCM-2300 is a digital audio tape recorder conforming to the DAT format standard. Playback/recording on compact DAT tape in the long play mode can be available by connecting the PCM-2300 to the professional audio equipments. In addition, The sub-codes which are recorded in different area with the audio signal enable you to perform a search function.
The writing or playback of time codes for professional use cannot be available with the PCM-2300.

1-2 Features

(1) Digital Audio Recorder Compatible With DAT Format Standard
Audio signals are converted into 16-bit quantized digital data for recording and playback realizing pure reproduction with virtually no degradation in sound quality. Moreover, the basic tape format is compatible with consumer-use DAT equipment.

(2) Professional-use Digital I/O
Digital I/O terminals (unbalanced phono jacks) conform to the professional format standard (IEC958-TYPE I*) enabling digital dubbing using another PCM-2300. The digital input terminals also accept consumer format (IEC958-TYPE II*) signals for digital recording from consumer-use equipment.

(3) Wide-range Analog I/O Level Adjustment
Rear panel signal level adjustment function for the balanced type (XLR) analog I/O jacks covers a wide adjustment range from professional-use to consumer-use levels.

(4) 2-Head, 2-DD Mechanism
The PCM-2300 employs usual two-head (Recording/playback) system. Moreover, two motors of drum and capstan offer direct-drive operation for improved tape transport stability.

(5) Compatible With Various Sampling Frequencies (Fs)
Allows recording and playback in both standard play (SP) mode and long play (LP) mode compatible with consumer-use equipment. Analog recording is possible at sampling frequencies of 48 kHz (SP), 44.1 kHz (SP) and 32 kHz (LP), and digital recording is possible at sampling frequencies of 48 kHz (SP), 44.1 kHz (SP) and 32 kHz (SP/LP). Playback is possible at all frequencies and modes.

Note
"TYPE I" or "TYPE II" stands for the followings:
INTERNATIONAL STANDARD IEC958 (Digital audio interface)
TYPE I: Channel status application for "Broadcasting studio use"
TYPE II: Channel status application for "Consumer use"

(6) Remote Control Operation
Wireless/wired remote control is possible using the supplied RM-D2300 remote commander.

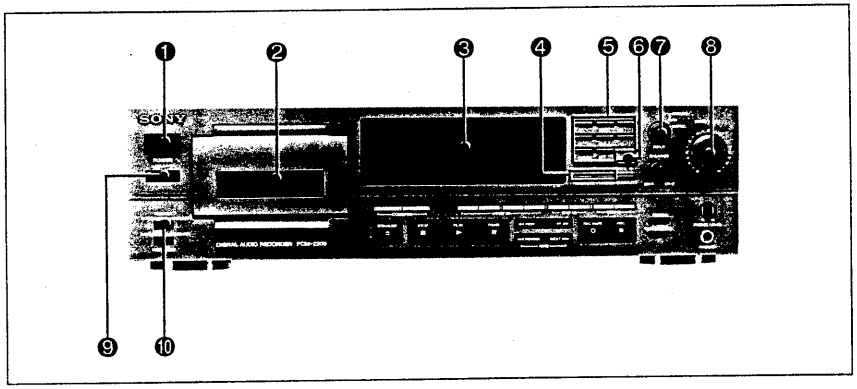
(7) Various Subcodes and Search Functions
In addition to the Start ID, Skip ID and End ID, other subcodes such as the absolute time and program number can be recorded in and read from the tape's subcode area to provide a wide variety of convenient DAT search functions.

(8) Built-in Date Function
A dedicated built-in clock is used to automatically record the date (year/month/day), day of the week, and time (hour/minute/second) in the tape's subcode area, allowing confirmation of the date and time of recording during playback.

(9) Multi Display Provides Quick Access to Many Types of Information
In addition to displaying the program number and various types of time/counter data, this display is provided with features including a 21-segment peak level meter and a 0.5 dB-step peak margin indicator.

(10) Rack Mounting Compatibility
Use of the supplied adapter allows mounting in a standard 19" rack.

2-1 Front Panel



❶ POWER switch
Turns the power on and off.

❷ Cassette compartment
Insert a cassette with the window side up and the safety tab facing you.

❸ Display window

❹ DATE button
RECORDED: Press to display the recording day of the tape being played.
PRESENT: Press to display the current time. Each time the RECORDED or PRESENT button is pressed, year, month, and day display or time, minute and second display is switched respectively.

❺ Music select buttons
Numeric buttons (0–9): Designate the desired program number to be played back before starting playback.
CLEAR: Use to cancel the program number which has been mistakenly entered.

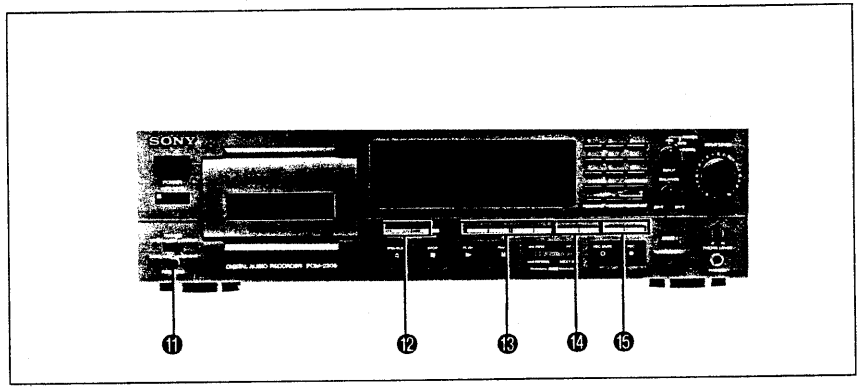
❻ COPY PROHIBIT button
Press to write the copy prohibit code on the tape so that the COPY PROHIBIT indicator appears on the display.

❼ INPUT selector
Set according to the signal to be recorded.
ANALOG: Selects when recording from the equipment connected to the ANALOG IN jacks. In this mode, the sampling frequency of 48 or 44.1kHz is also selected.
DIGITAL: Selects when recording from the equipment connected to the DIGITAL IN jack.

❽ INPUT LEVEL control
Adjust the recording level for the analog input signals. Normally set to the 10 (MAX) position. When recording digital signals, it is not necessary to adjust the recording level.

❾ Remote sensor
Receives the signal from the wireless remote commander.

❿ REMOTE switch
Switches between the wireless remote commander and wired remote commander.



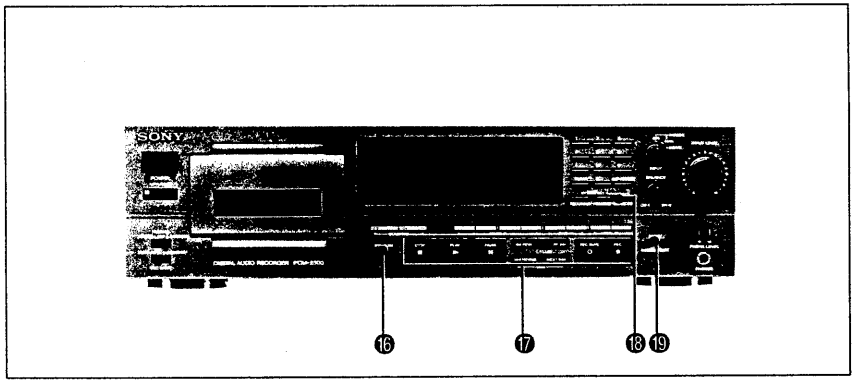
⓫ REC MODE selector
Normally set to STANDARD.
When this selector is set to LONG, you can record analog input signals or digital signals with 32 kHz in the long-play mode.

⓬ COUNTER buttons
MODE: Selects the counter display in the display window among the linear counter (tape running time), absolute time, elapsed time of the selection, and total remaining time of tape. Each time you press the button, the display changes sequentially.
RESET: Resets the linear counter to "0M 00S".

⓭ START ID buttons
AUTO: Press to turn on and off the AUTO indicator. When the AUTO indicator is lit, the start ID will automatically be written during recording. The leading edge of the signal level for analog input or U-bit of the interface for digital input is detected and start ID is automatically written.
RENUMBER: Press to renumber all programs on the tape. When only the start IDs are written, pressing this button will insert the proper program numbers beginning with "1". The tape will rewind and start from the beginning to accomplish this function.
WRITE: Press to write the start ID at the desired point during recording or playback.
ERASE: Press to erase the start ID. When a start ID and a program number are written on the tape, both codes are simultaneously erased by pressing this button.

⓮ SKIP ID buttons
WRITE: Press at the beginning of the portion you may wish to skip later. A skip ID will be written from the point where you pressed this button.
ERASE: Press to erase the nearest skip ID which is before the current position.

⓯ END ID buttons
WRITE: Press to write the ID signifying the end of playback or recording.
ERASE: Press to erase the end ID.

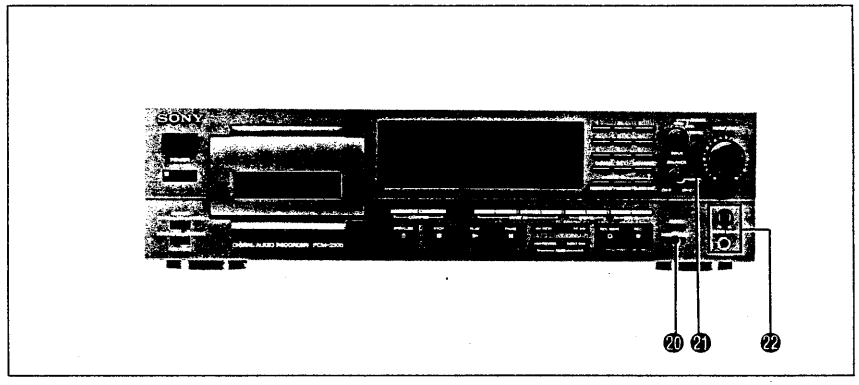


⑯ OPEN/CLOSE button
Press to open or close the cassette compartment.

⑰ Tape operating buttons
■(stop): Press to stop recording or playback.
►(play): Press to play back the tape.
II (pause): Press to stop for a moment during recording or playback. To restart recording or playback, press this button again or press ►. If the unit is left in the pause mode for about 10 minutes, it will automatically be released and the deck will enter the stop mode. To restart recording or playback from the stop mode, press ● or ► respectively.
⏮(PREVIOUS)/⏭(NEXT) (AMS): Press to locate the beginning of the selection during the playback.
◄◄(REW)/►►(FF) (rewind/review, fast-forward/cue): In the stop mode, press to rewind/fast-forward the tape. During playback, press to rewind or fast-forward the tape while listening to the sound.
O (record muting): Inserts a sound-muted portion (space).
● (recording): Press to set the unit to record-pause mode. After pressing this button, press II or ►.

⑱ CLOCK SET button
Press to adjust the time of the clock built in this unit.
In this mode, The COPY PROHIBIT button and the 0 button function as the + and - buttons respectively.

⑲ FADER button
Press to fade in or fade out during recording or playback.



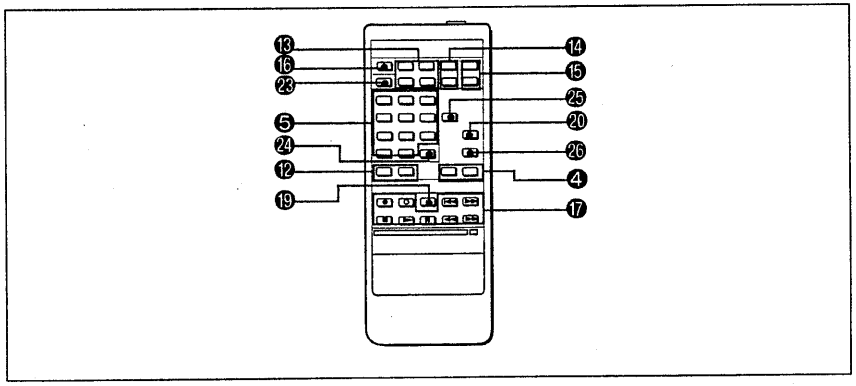
⑳ MARGIN RESET button
Press to reset the margin of peak level.

㉑ BALANCE control
Adjust the recording level balance for the analog input signal. Turning the knob counterclockwise increases the level of CH1(L) while turning it clockwise increases the level of CH2(R).

㉒ Headphones jack and PHONE LEVEL control
The PHONE LEVEL control adjusts the headphones volume level.

2-2 Remote Commander

2-2-1 Wireless / Wired Remote Commander (Supplied)



Buttons with the same numbers as those on the main unit have the same function.

The following functions are operated only with the remote commander.

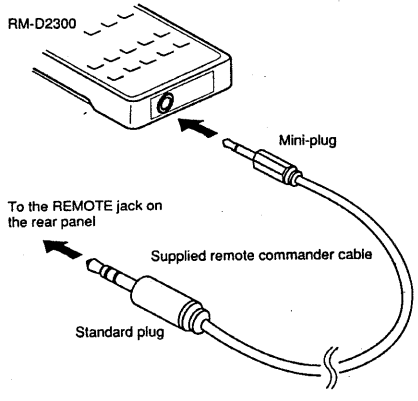
㉓ DISPLAY MODE button
Change the display mode.

㉔ MUSIC SCAN button
Use this feature to listen to the beginning of each selection successively.

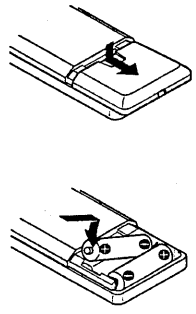
㉕ REPEAT button
Press to play a desired portion repeatedly. Each time you press the button, the indication changes as follows: REPEAT 1 →REPEAT ALL →off

㉖ SKIP PLAY button
Press to activate the skip ID code function. The portion of the tape previously marked will be skipped.

* This remote commander can be used in wireless mode or wired mode. Normaly use it as a wireless remote commander, or it functions as a wired remote commander by connecting the remote commander to the REMOTE jack on the rear panel with the supplied commander cable.



Installing Batteries



Insert two size AA (R6) batteries with correct polarity, and close the lid.

Notes on remote control

- Be sure to install the batteries even when the remote commander is used as a wired remote commander.
- Do not expose the remote sensor on the deck to strong light such as direct sunlight, lighting apparatus, etc.
- Do not place any obstructions between the Remote Commander and the remote sensor, or else operations will not be performed correctly.
- The controllable range is limited. Point the Remote Commander directly at the remote sensor on the deck within 5 meters and 30 degrees.
- When remote control operation distance becomes shorter, the batteries are weak. Replace both batteries with new ones.

To avoid battery leakage
When the commander will not be used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.

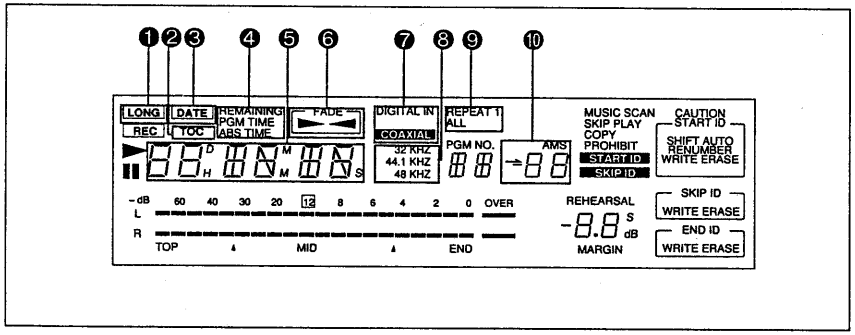
Battery life
About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries (size AA (R6)).

Mode switching and connections of the remote commander

Remote commander mode	Setting of the remote switch on the front panel	Connection of the jack of the remote commander	Connection of the REMOTE jack on the rear panel
Wired mode	WIRED	Connect the mini-plug of the commander cable	Connect the standard plug of the commander cable
Wireless mode	WIRELESS	Disconnect the cable	Disconnect the cable
No use	OFF	Disconnect the cable	Disconnect the cable

* The mini-plug of the commander cable may be disconnected from the remote commander. To prevent it, operate the wired remote commander on a stable place.

2-3 Display Window



❶ LONG play mode indicator
Lights when recording or playback is being performed in the long play mode.

❷ TOC (Table Of Contents) indicator
When a pre-recorded DAT cassette tape with TOC is played back, this indicator will light.

❸ DATE indicator
Lights when the RECORDED button is pressed to display the recording day of the tape being played. Blinks when the PRESENT button is pressed to display the current time.

❹ REMAINING (remaining time):
Lights when the counter shows the remaining time of the tape.
PGM TIME (program time):
Lights when the counter shows the elapsed time of the current selection.
ABS TIME (absolute time) indicator:
Lights when the counter shows the elapsed time from the beginning of a tape.

❺ Time indicator
Indicates the tape running time, absolute time, elapsed time of the current selection, remaining time or recording day. Each time the COUNTER MODE button is pressed, the display is changed.

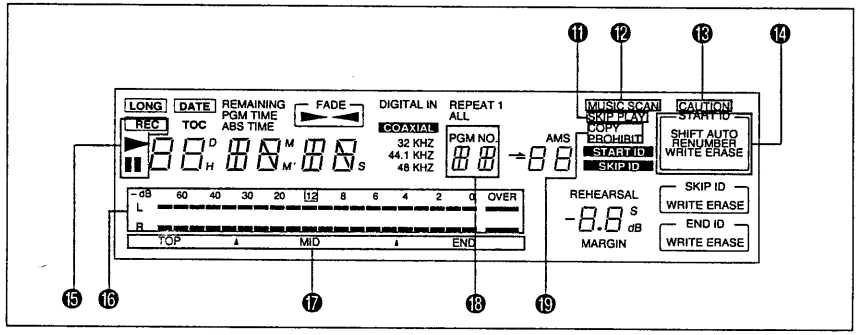
❻ FADE IN/OUT indicator
FADE: Blinks when recording or playback fades in.
FADE: Blinks when recording or playback fades out.

❼ DIGITAL IN indicator
The COAXIAL indicator lights when the INPUT selector is set to the DIGITAL position. No indicator lights when the INPUT selector is set to the ANALOG position.

❽ SAMPLING FREQ. (Sampling frequency) indicator
Indicates the sampling frequency (48 kHz, 44.1 kHz or 32 kHz) during playback or recording.

❾ REPEAT indicators
REPEAT 1: Lights when a desired selection is played back repeatedly.
REPEAT ALL: Lights when all the selections are played back repeatedly.

❿ AMS (Automatic Music Sensor) indicator
Show the number of selections to be skipped ahead or behind in the AMS operation. When designating a selection directly by the numeric button and the ► button, the display shows the program number of the target selection while the selection is being searched for.



⓫ SKIP PLAY indicator
When this indicator is lit during playback, the portion marked by the skip ID is skipped and playback continues from the next start ID.

⓬ MUSIC SCAN indicator
Lights after the MUSIC SCAN button on the wireless remote commander is pressed to listen to the beginning of each selection successively.

⓭ CAUTION indicator
Lights when moisture condensation occurs. If this happens, the deck stops functioning automatically. (See page 8-1.)

⓮ START ID mode indicators
AUTO: Lights when the AUTO button is pressed to write the start ID automatically.
RENUMBER: Lights when the RENUMBER button is pressed to renumber the program numbers.
WRITE: Lights when writing the start ID manually.
ERASE: Lights when erasing the start ID.
AUTO RENUMBER: Lights when renumbering program numbers automatically.
SHIFT RENUMBERING: Lights when shifting the start ID and program number position.

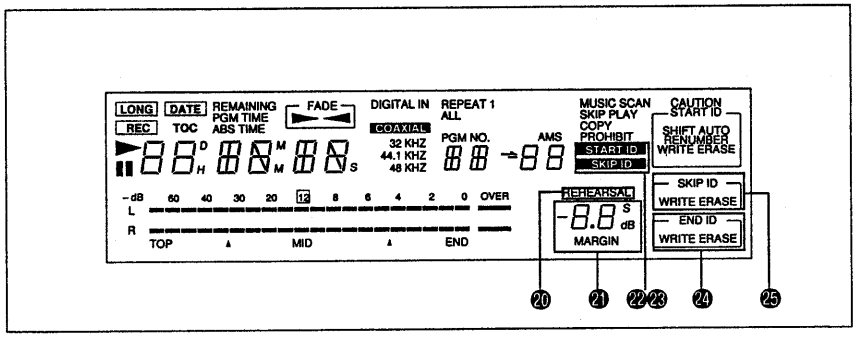
⓯ Tape operation indicators
REC: Lights during recording or in the record-pause mode.
►: Lights during recording or playback. It also lights in the record-pause mode or in the play-pause mode.
II: Lights in the record-pause mode or in the play-pause mode.

⓰ Peak level meters
Indicate the peak value of the audio signal being recorded during recording or the peak value of the audio signal recorded on the tape during playback.

⓱ Frequency map indicator
Bars indicating the sampling frequencies with which the tape was recorded appear on the peak level meters. (Refer to page 6-4.)

⓲ PGM NO. indicator
Shows the program number of the selection being played.

⓳ COPY PROHIBIT indicator
Lights when recording the digital signal with the copy prohibit code.



⑳ REHEARSAL indicator
Lights while the rehearsal function is activated (page 5-6).

㉑ MARGIN indicator
Shows how much margin there is between the peak level of input audio signal and 0 dB.

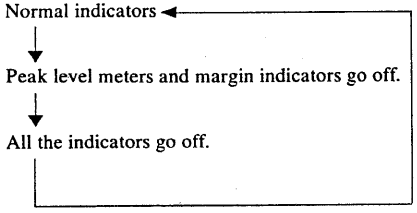
㉒ START ID indicator
Blinks when writing (for 9 or 18 seconds) or erasing a start ID code, and lights when the start ID is detected during playback.

㉓ SKIP ID indicator
Lights when writing or erasing a skip ID code or when the skip ID is detected during playback.

㉔ END ID mode indicator
WRITE: Lights when writing the end ID.
ERASE: Lights when erasing the end ID.

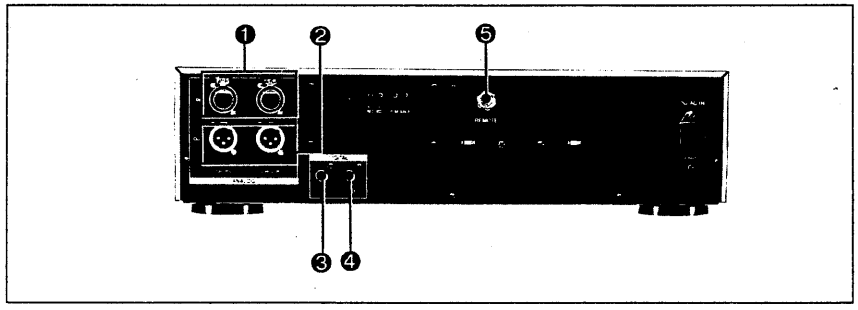
㉕ SKIP ID mode indicator
WRITE: Lights when writing the skip ID.
ERASE: Lights when erasing the skip ID.

To turn off the display window
When the power is turned on, the display window also is turned on. During recording or playback, all display or some parts of the display can be turned off.
Each time the DISPLAY MODE button on the Remote Commander is pressed, the indicators change as follows:



To change the brightness of the display window
While pressing COUNTER MODE, press one of the numeric buttons 1, 2 and 3. The greater number pressed, the darker the display window becomes.

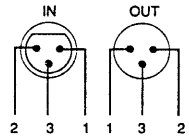
2-4 Rear Panel



❶ ANALOG IN jacks (CH 1 (L)/CH 2 (R)) (XLR type connector)
For analog audio signal input.

❷ ANALOG OUT jacks (CH 1 (L)/CH 2 (R)) (XLR type connector)
For analog audio signal output.

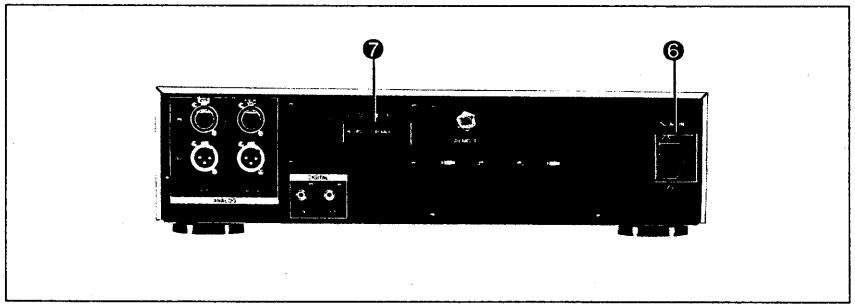
1	GND
2	HOT
3	COLD



❸ DIGITAL IN jack (Phono jack)
For digital audio input of professional-use digital signal (IEC 958-TYPE I).
Consumer-use digital audio signal (IEC 958-TYPE II) can also be input.

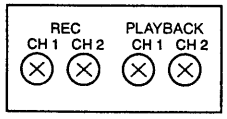
❹ DIGITAL OUT jack (Phono jack)
For digital audio output of professional-use digital signal (IEC 958-TYPE I).

❺ REMOTE jack
Standard phone jack for Wired Remote Commander. To be connected to the supplied Remote Commander RM-D2300 with the commander cable.



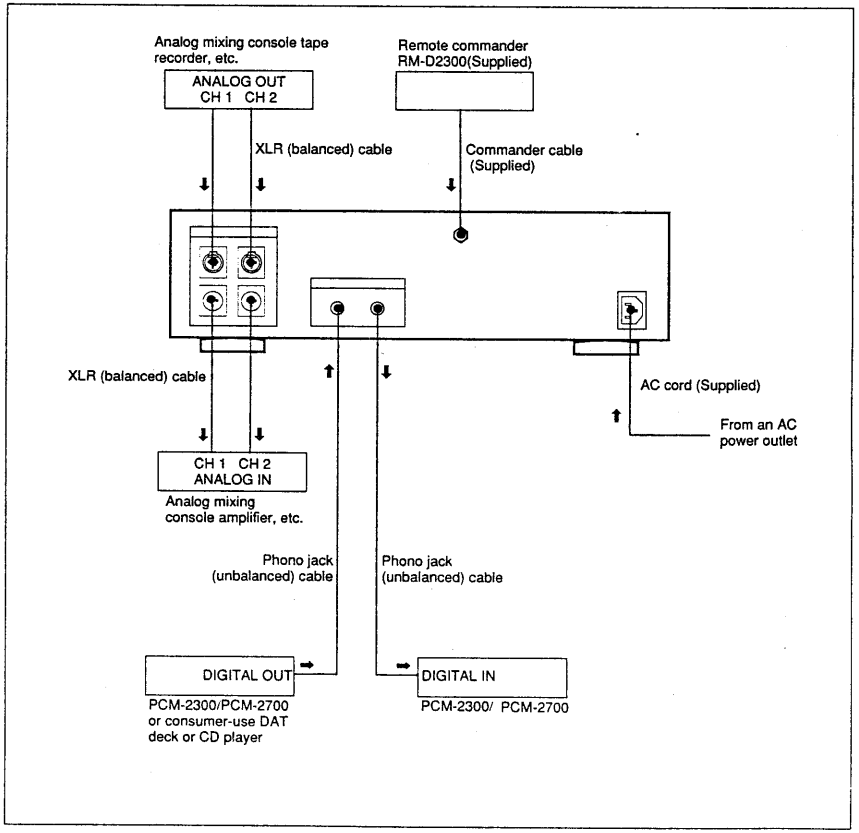
❻ AC IN inlet
To be connected to the supplied AC power cord.

❼ RECORD/PLAYBACK controls (Level control)
Remove the cover on the rear panel so that the level of recording input/playback output in each channel can be adjusted with the blade screwdriver.



3-2 Connection

Notes on connection
- Before connecting the unit, turn off the power switch.
- The cable connectors should be fully inserted into the jacks. Loose connection may cause hum and noise.



3-3 Preparation

3-3-1 Clock Setting

This unit employs a built-in clock to keep track of the current date and time. Once you set the date and time, this information will be recorded on the tape along with the audio signal during recording. This function is very convenient because it allows you to check when the tape was recorded when playing the tape later.

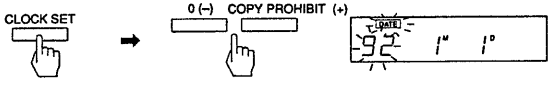
Setting the date and time

Example: Setting the clock to 10:30 a.m., July 4, 1992 (Saturday)

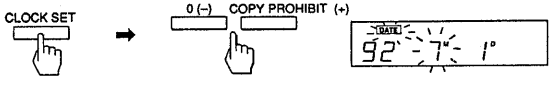
Setting the date

1 **Display the date.**

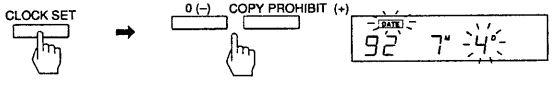
2 **Set the year.**



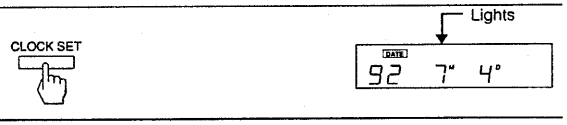
3 **Set the month.**



4 **Set the day.**



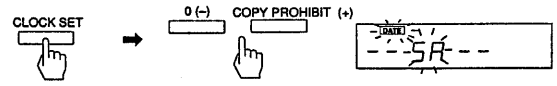
5 **Complete the setting procedure.**



Setting the day of the week

1 **Display the day of the week.**

2 **Set the day of the week.**

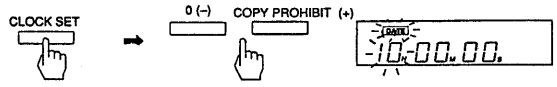


3 **Complete the setting procedure.**

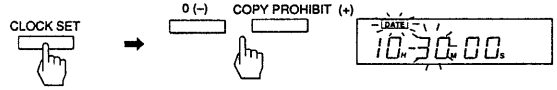
Setting the time

1 **Display the time.**

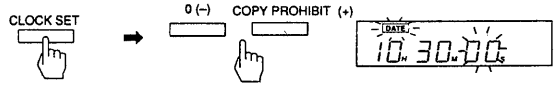
2 **Set the hour.**



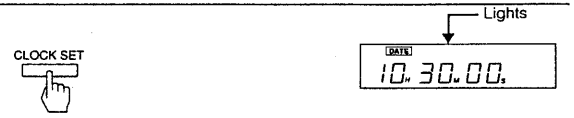
3 **Set the minutes.**



4 **Set the seconds to 0.**



5 **Start the clock simultaneously with the signal from a timecast (telephone, etc.).**



To confirm the date or time
Press the PRESENT button to display the date or time. One press displays the date and two presses displays the time. To return to the original counter display, press the COUNTER MODE button.

Time display
The time is displayed in 24-hour format.
Midnight and noon are displayed as follows:
Midnight: 0:00
Noon: 12:00

The day of the week is displayed as follows.

Sunday	SU
Monday	MO
Tuesday	TU
Wednesday	WE
Thursday	TH
Friday	FR
Saturday	SA

Built-in clock
This unit's built-in clock operates using a quartz oscillator, and time variations caused by changes in temperature, etc., may accumulate. For precise recording of hour, minute, and second data by the built-in date function, it is recommended to set the clock every time the recording is performed.

Precautions when setting the time
- Set the time while the tape is stopped.
- Although this unit's clock automatically adjusts for leap years and long and short months, do not enter a date which does not exist.

Note
This unit uses a back-up battery to keep the clock running when the power is turned off. The life of the battery under normal use is approximately five years. When the battery starts to run down, the clock will stop operating normally. When this occurs, have the battery replaced at your dealer or nearest Sony Service Center (a battery replacement fee is required).

3-3-2 Adjusting Analog Input/Output Level

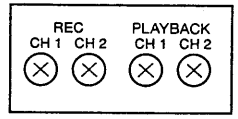
The analog input/output reference level during recording or playback can be adjusted on this unit.
The input/output reference level is factory set to +4 dBs at -20 dB from the full bit level. The adjustable range of the reference level is +8 dBs to -12 dBs.

Procedure of adjusting analog input/output level

(1) Remove the cover of the RECORD/PLAYBACK controls on the rear panel.

(2) Playback the tape recorded in the level at -20 dB from the full bit. Adjust the PLAYBACK (CH 1/CH 2) volume so as to obtain the desired levels.

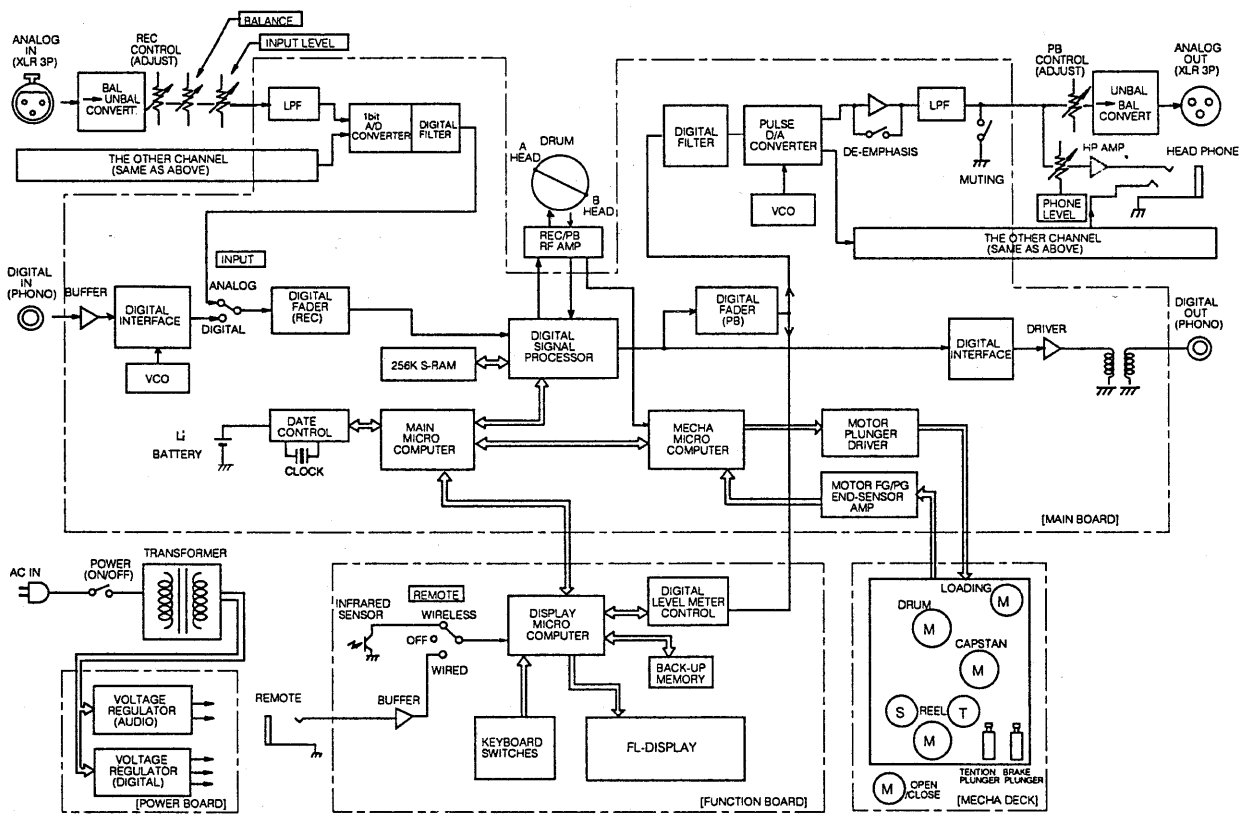
(3) Set the INPUT LEVEL control on the front panel to the 10 (MAX) position, input an audio signal to the ANALOG IN Jacks and adjust the RECORD (CH 1/CH 2) controls so as to obtain the desired levels at ANALOG OUT jack.



- Adjust the RECORD/PLAYBACK controls with the blade screwdriver and be sure not to turn the controls forcibly nor to touch any other parts than the RECORD/PLAYBACK controls.

(4) Put the cover of the controls.

8-4 Block Diagram

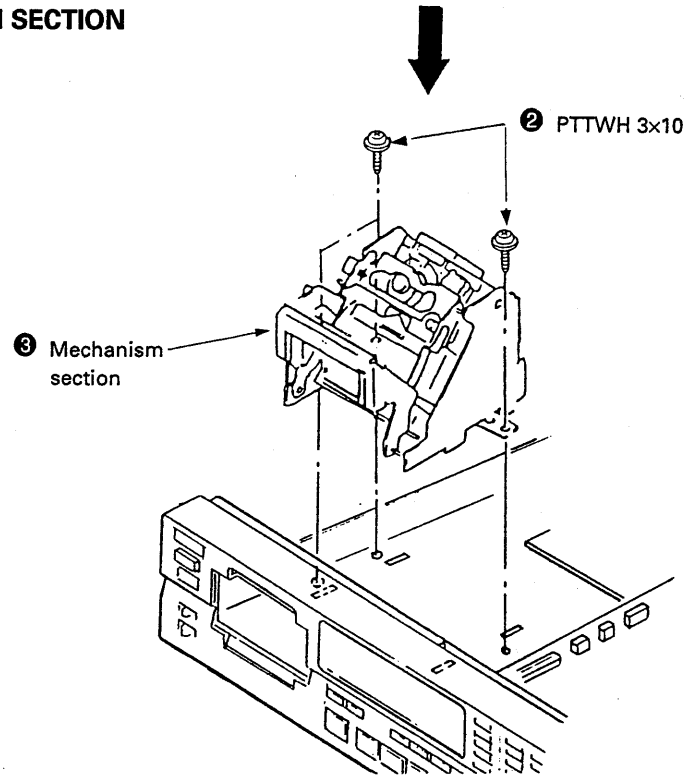


SECTION 2
DISASSEMBLY

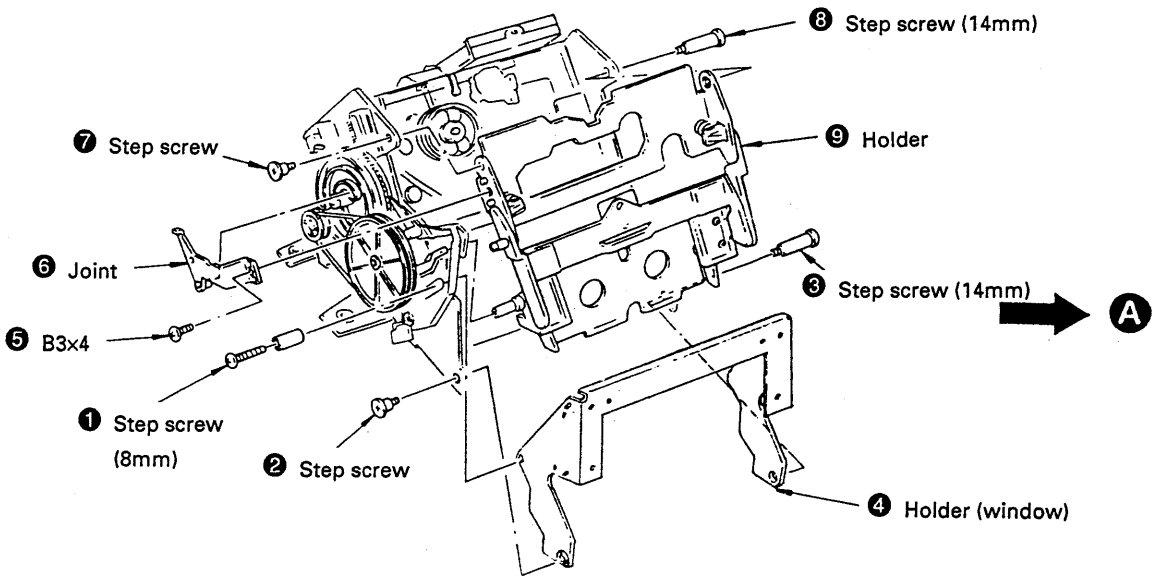
- **Remove the following devices shown by ❶, etc. In the order of the numbers.**

[CASE]	[CASSETTE WINDOW]
Unscrew the four case attachment screws and remove the case.	❶ Press the OPEN/CLOSE switch to effect LOADING OUT STATE (if power is not supplied) rotate the pulley in the left side of the Mechanism Deck counterclockwise.) ❷ Remove the cassette by lifting the window up.

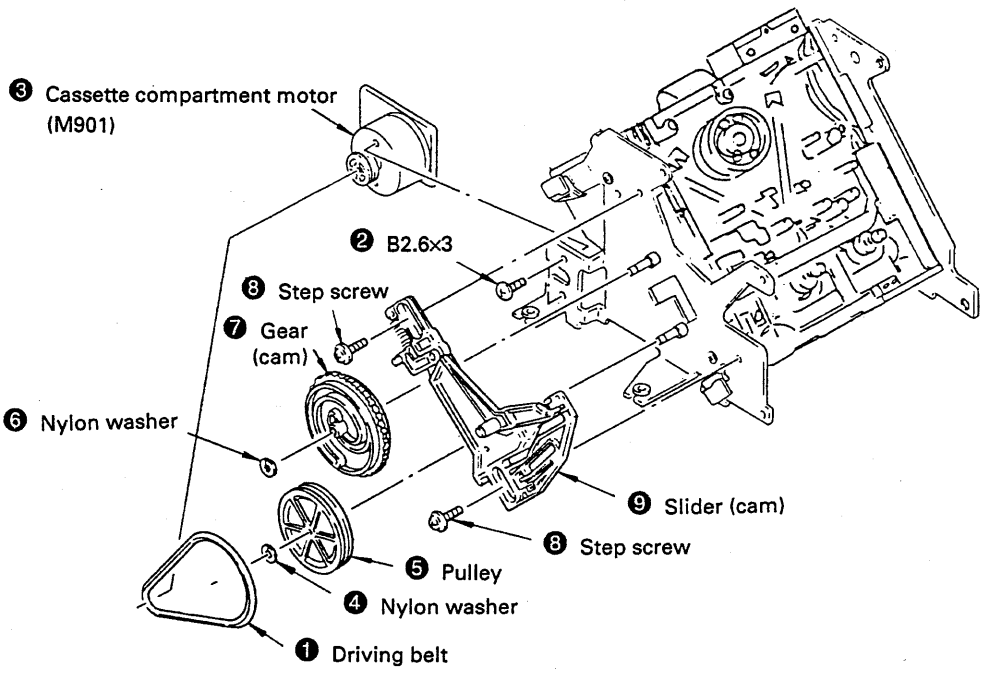
MECHANISM SECTION

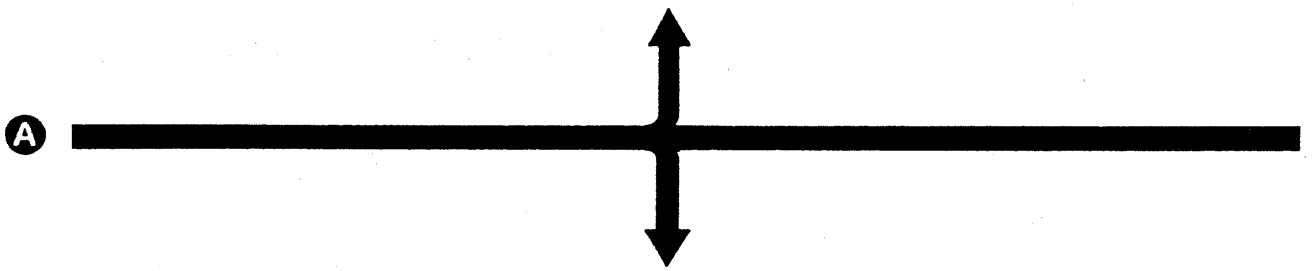


HOLDER



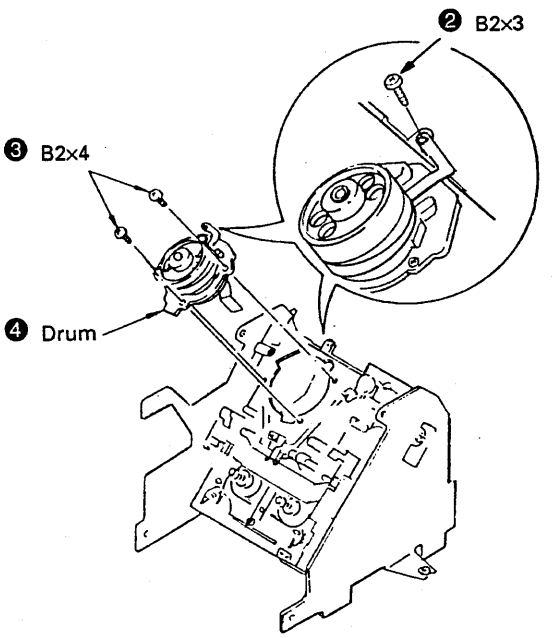
CASSETTE COMPARTMENT MOTOR (M901), PULLEY, GEAR (CAM) AND SLIDER





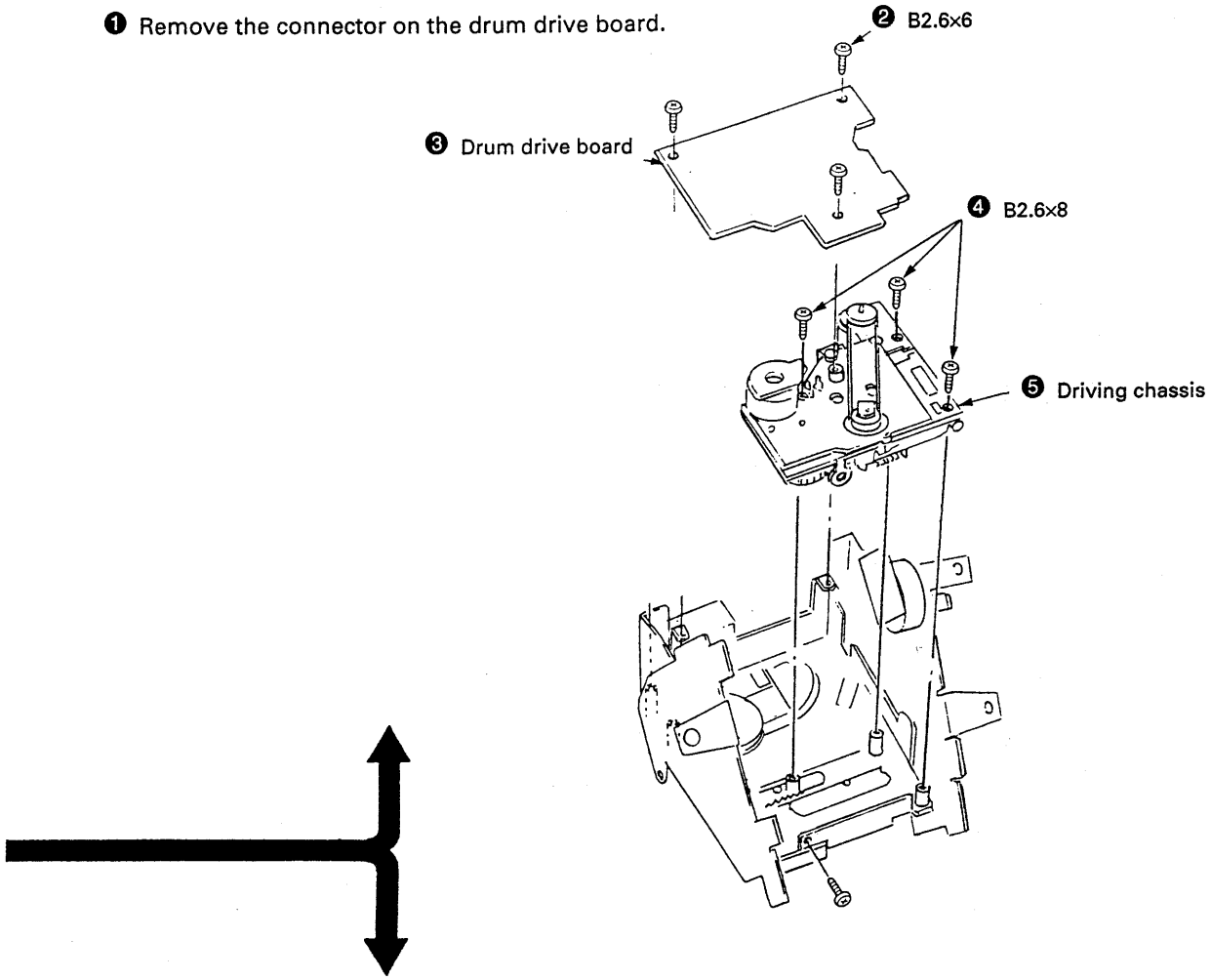
DRUM

❶ Remove the drum lead wires on rear side of the drum from the connector.

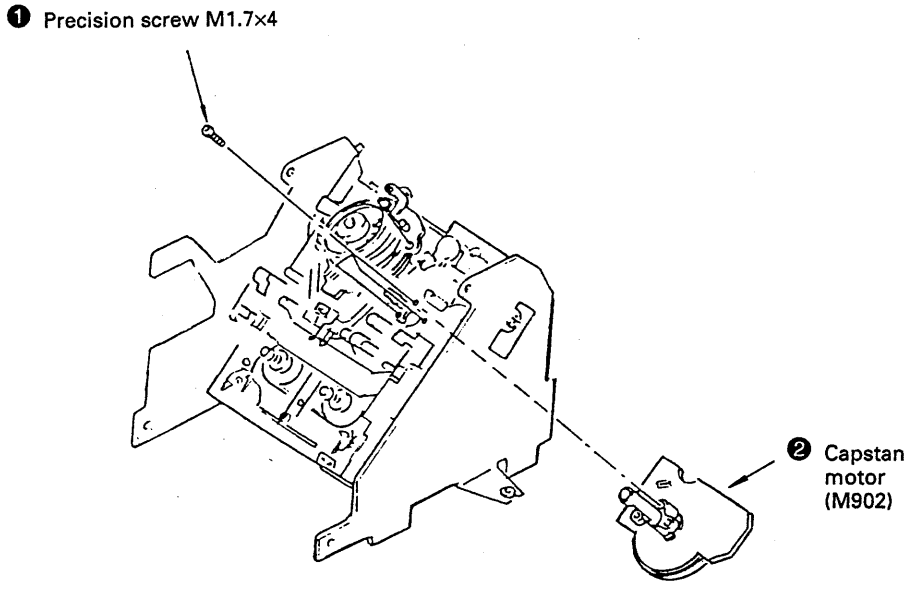


DRUM DRIVE BOARD, DRIVING CHASSIS

❶ Remove the connector on the drum drive board.



CAPSTAN MOTOR (M902)



SECTION 3
ADJUSTMENTS

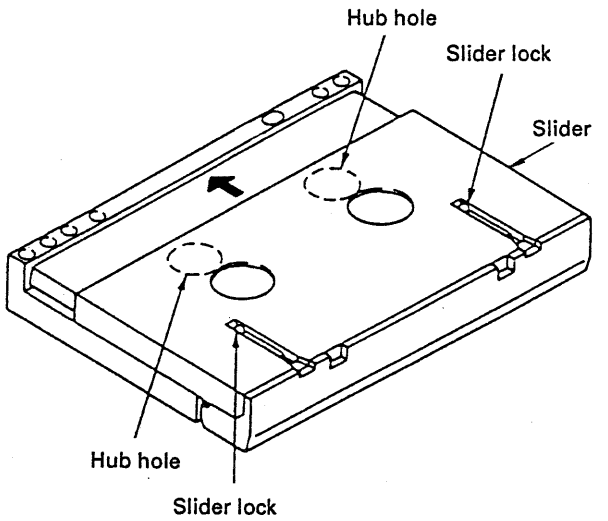
Notes When Making Adjustments

1. Adjustments should be performed in the order listed.
2. Use the following test tapes :
   TY-7111 (8-909-812-00) ..... Level
   TY-7252 (8-909-822-00) ..... Tracking
   TY-7551 (8-909-814-00) ..... Functions
   TY-30B (8-892-358-00) ..... Blank

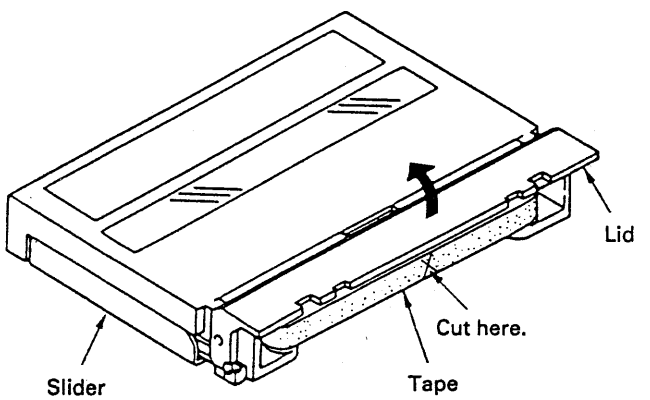
   Use the following torque meter:
   TW-7131 (8-909-708-71) ..... FWD

3. Switches and controls should be set as follows unless otherwise specified.
   TIMER switch : OFF
   REC MODE switch : LONG
   INPUT switch : OPTICAL
   REC LEVEL control : Min.
   PHONES LEVEL control : Min.

4. Creating an end sensor cassette
   (1) Press the tape slider lock and move the slider in the direction indicated by the arrow.



   (2) Open the lid and cut the tape.



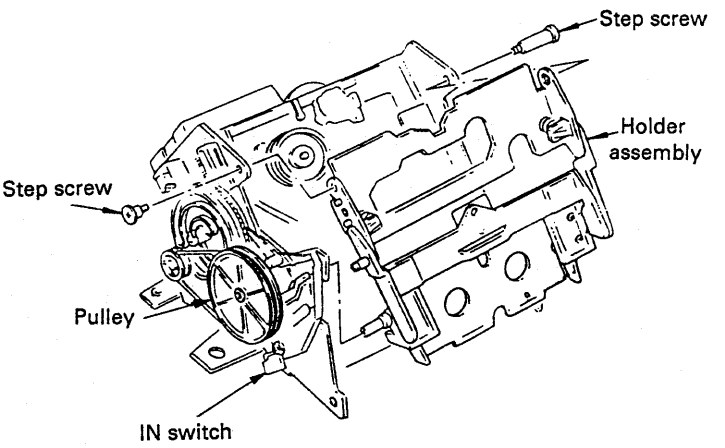
   (3) Turn the hubs until the tape is completely inside the cassette (both T and S sides).
   The end sensor cassette for end sensor adjustment is now ready for use.

5. Cleaning of the Revolving Drum
   (1) Fold a chamois (2-034-697-00) or a knit cloth into 4 or more files, slightly impregnate it with a cleaning liquid (9-919-573-00), and softly touch the drum with it and manually rotate the drum slowly counterclockwise by 2 to 3 turns for cleaning.
   (2) At that time, be careful not to move the chamois vertically to the head tip. Otherwise, the head tip may probably be damaged.

6. Be careful not to move RV1 and RV2 on the RF AMP board in the mechanism assembly.

7. To adjust the tape path and guides, remove the holder assembly as shown in the diagram and use the DAT holder jig (J-8000-002-A). This will make it easier to perform adjustments.

   - First turning the pulley counterclockwise to put it in loading out status will make removal and reattachment of the holder assembly easier.
   - To perform adjustments, turn the pulley clockwise to put it in loading in status, load the cassette tape and set the IN switch to the ON position.



8. Test mode
   The test mode is effected by shorting TP (XTEST MAIN, XTEST SERVO and XTEST DISP) on the main board and the control switch board and GND.
   (1) Test mode (main · servo)
   Turn OFF the power switch, connect XTEST MAIN and XTEST SERVO on the main board to GND and perform the following adjustments.
   - Tape path fine adjustment
   - DPG adjustment
   - ATF pilot (GCA) checking
   - End sensor checking
   - FWD torque checking
   - FWD back tension checking and adjustment

   (2) Test mode (display)
   You can check the following FL display tube and the panel switch by turning OFF the power switch, disconnecting CN932 on the power board, removing flexible board CN752 on the control switch board, connecting XTEST DISP to GND, connecting CN932 again and then turning ON the power switch.

Each grid of the FL display tube sequentially lights up while all tubes being lighted up finally.

⇓

Level meters go out one after one.

⇓

Press any of the remote controller for DAT in this state. Thus, all level meters go out. (It may sometimes occur that one or two meters remain lighting up according to switch setting at that time.)

⇓

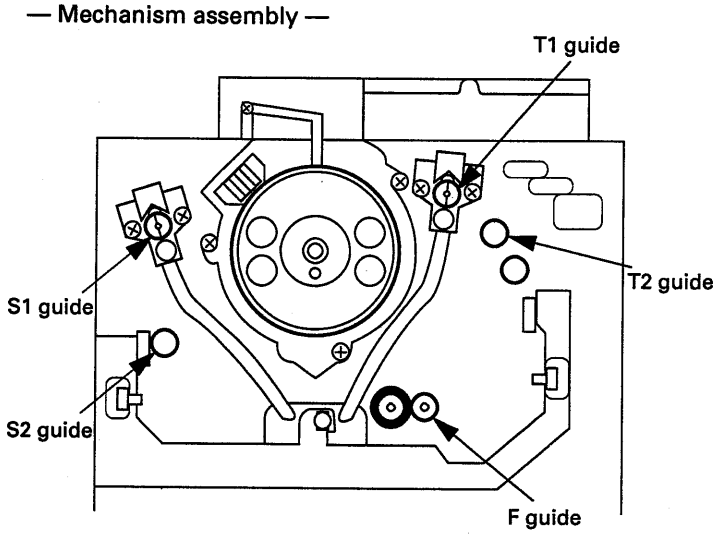
Everytime a switch on the panel is pressed, display tubes light up sequentially one after one. With all keys once pressed, all level meters go out.

To reset the test mode, disconnect the wire shorting XTEST and GND. After completion of adjusting, be sure to reset the test mode.

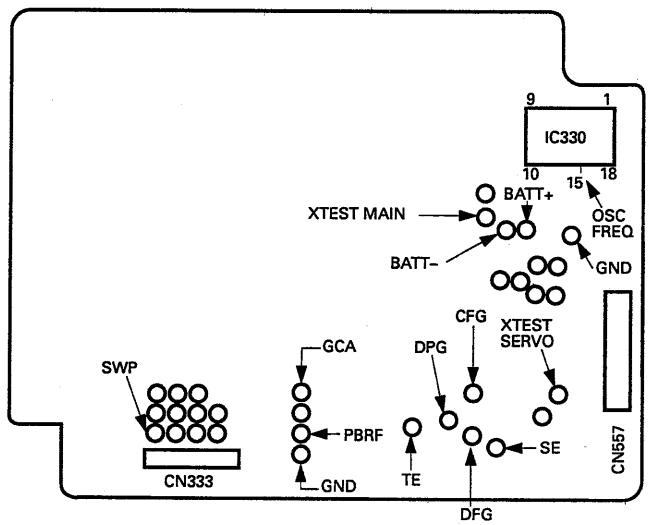
9. Check the following items for correct tape speed, after completion of adjusting.
   (1) Set the REC MODE switch to STANDARD and check for normal recording and playback. (× 1)
   (2) Set the REC MODE switch to LONG and check for normal recording and playback. (× 0.5)
   (3) With QUE (▶ + ▶▶) or REVIEW (▶ + ◀◀), check that qurrr, qurrr sound is heard. (× 3, × 8)
   (4) Check that correct time is displayed after FF (▶▶) or REV (◀◀). (× 16)
   (5) Check that SEARCH (▶▶I, I◀◀) is normal.

Adjust Parts Location

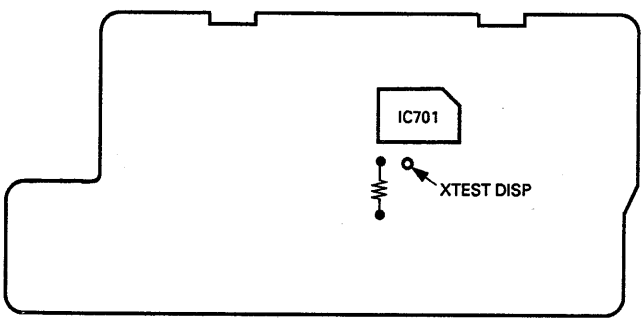
— Mechanism assembly —



— Main board —



— Control SW board —



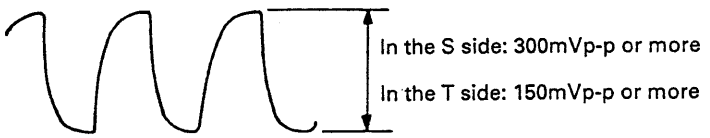
3-1. ELECTRICAL ADJUSTMENTS

End Sensor Check

Perform the following adjustment when the holder has been removed or part of the mechanism deck section replaced.

Check Procedure:

1. Connect an oscilloscope to the test land SE (in the S side) and TE (in the T side) of the main board.
2. Actuate the test mode (main • servo), mount an end sensor cassette and effect the STOP (■) mode.
3. Check that p-p values of waveform of the oscilloscope satisfy the following.



FWD Torque Check

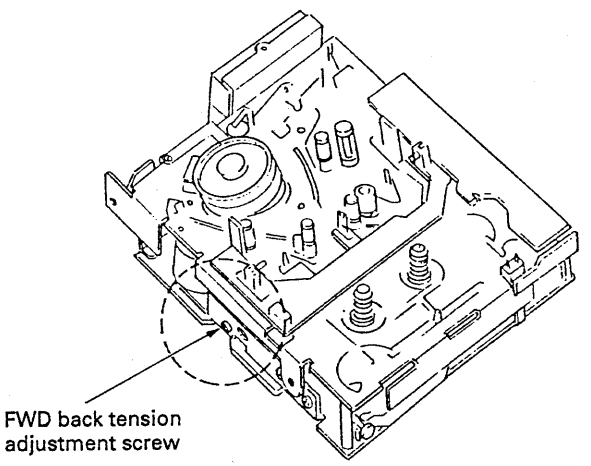
Check Procedure:

1. Put the set into the test mode (main • servo) and load the FWD torque meter TW-7131 (8-909-708-71).
2. Put the set into the PLAY (▶) mode.
3. Confirm that the FWD torque value (take-up side rewinding torque) is between 10 – 20 g·cm (0.14 – 0.28 oz·inch).
4. Confirm that the value indicated by the torque meter is maintained for one full cycle.

FWD Back Tension Check and Adjustment

Check procedure:

1. Put the set into the test mode (main • servo) and load the FWD torque meter TW-7131 (8-909-708-71)
2. Put the set into the PLAY (▶) mode.
3. Confirm that the back tension (supply side) is between 5 – 6 g·cm (0.07 –0.09 oz·inch).
   If this is not satisfied, adjust back tension by rotating the FWD back tension adjustment screw equipped on the side surface of the mechanical deck. After completion of adjusting, be sure to apply screw lock.
4. Confirm that value indicated by the torque meter is maintained for one full cycle.



To tighten (clockwise) — back tension becomes larger.
To loosen (counterclockwise) — back tension becomes smaller.

Tape Path Fine Adjustments (× 1.5 FWD Mode)

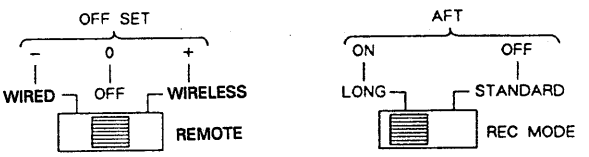
Perform the following adjustment when the drum has been replaced.

Adjustment Procedure :

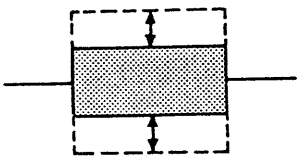
1. Connect an oscilloscope CH-1 to TP (PBRF) and CH-2 to TP (SWP) on the main board.

2. Put the set into the test mode (main • servo) and load test tape TY-7252 (8-909-822-00).

3. Press the AMS (▶▶|) key.
   Each part of switches on Test Mode.

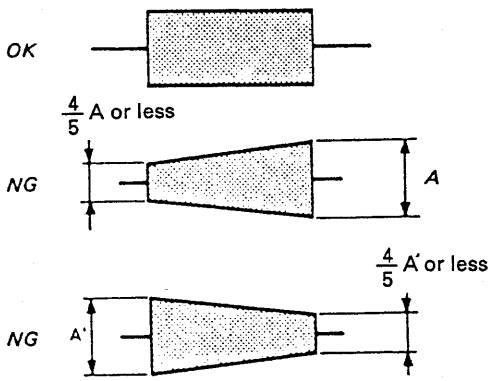


4. With the REC MODE switch set to STANDARD (ATF: OFF) and the REMOTE switch set to WIRELESS or WIRED (OFFSET: + or –), fine adjust the S1 and T1 guides so that the oscilloscope RF signal waveform remains the same when high-low is repeated.



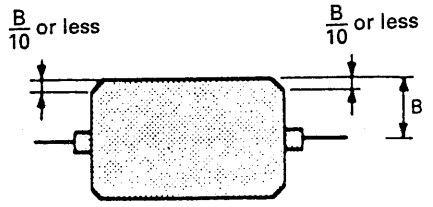
* Finish the adjustment by screwing in.

5. Check the RF signal waveform with the REC MODE switch set to LONG (ATF: ON) and the REMOTE switch set to WIRELESS or WIRED (OFFSET: + or –).



6. Check the RF signal waveform with the REC MODE switch set to LONG (ATF: ON) and the REMOTE switch set to OFF (OFFSET: 0).
   (1) Confirm theat the RF signal waveform peak value (B) is 60 mV or more.

(2) Confirm that the undershoot level of the RF signal waveform's flat portion is within 10%.



7. When the measured values are not within the above tolerances, repeat items 3 – 6 above.

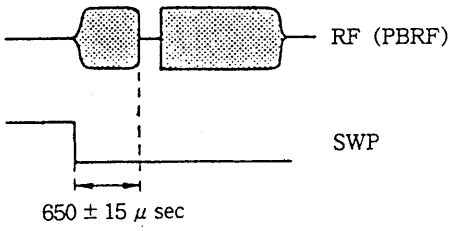
Adjustment Point: mechanism assembly

DPG Adjustment

Perform the following adjustment without fail when the drum has been replaced.

Adjustment Procedure:

1. Connect oscilloscope CH-1 to TP (PBRF) and CH-2 to TP (SWP) on the main board. (Use CH-2 as the trigger. When the CH-2 signal is inverted, the trailing edge can be used for synchronization.)
2. Put the set into the test mode (main · servo) and load test tape TY-7252 (8-909-822-00).
3. Set the REC MODE switch to LONG (ATF: ON) and the REMOTE switch to OFF (OFFSET: 0).
4. Press the AMS (▶▶I) key.
5. Press the ◀◀ and ▶▶ keys as appropriate so that the gap between the oscilloscope SWP and RF signals becomes 650 ± 15 µsec. (Hold the ◀◀ and ▶▶ keys down for more than 1 second to perform rough adjustment. Hold them down for approximately 0.2 seconds for fine adjustment.)



ATF Pilot (GCA) Check

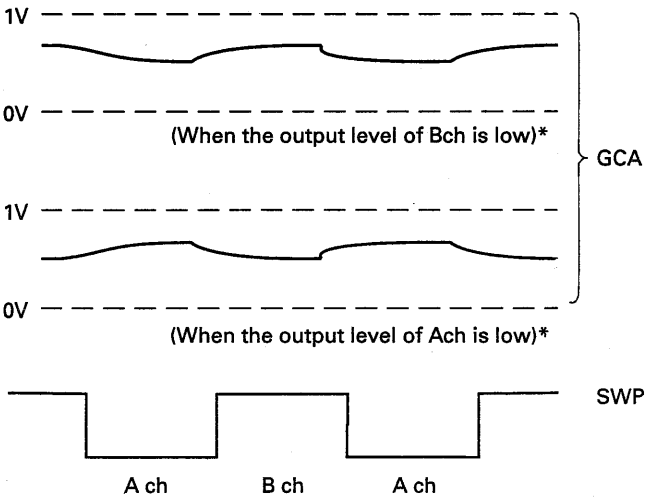
Perform this adjustment after cleaning the heads with a cleaning cassette.

Check Procedure:

1. Connect oscilloscope CH-1 to TP (GCA: Gain Control Amp.) and CH-2 to TP (SWP) on the main board. (When the CH-2 signal is inverted, the trailing edge can be used for synchronization.)

2. Put the set into the test mode (main · servo) and load test tape TY-7111 (8-909-812-00).

3. Actuate the PLAY (▶) mode and check that the GCA waveform on the oscilloscope is as follows.



* Slightly changes depending on the state of the head. NG if the GCA waveform is 1V or more or equal to the GND level.

3-2. CHECKS FOR DATE FUNCTION

Clock IC Back-up Check

- When there is the short-circuit position on the pattern around the lithium battery (BAT301) or the clock IC (IC330) or disconnecting CN398 on removing the front panel assembly the clock is reset. (In spite of pressing PRESET button, the data indication becomes "_ _Y _ _M _ _D" "_ _$_H$ _ _$_M$ _ _$_S$")
  At this time, check the back-up function by the procedures given below.

(1) Connect DC voltmeter to TP (BATT+) and TP (BATT –) on the main board.
(2) When the power is off, the voltage value of the item (1) should be less than +30 mV.
(When the voltage value becomes +30 mV or more, Check around IC330 or replace IC330.)
(3) When the power is on, the voltage value of the item (1) should be less than 0 mV (– (minus) indication).
(When the voltage value becomes + (plus) indication, Check around IC321 or replace IC321.)
(4) When the above voltage values are normal, set the preset date and time (year, month, day, day of the week, hour, minute, second) according to the instruction manual. (See page 12 for clock setting.)
(5) After setting the time on the item (4), turn power off and turn power on several seconds later, and check the clock works normally.

Back-up Battery Replacement

The life of the back-up battery under normal use (normal temperature, normal humidity) is approximately ten years or more. (On the instruction manual, described "approximately five years".)
Be careful about the following points on the battery replacement.

- Repair the cause of the battery wastage by performing mentioned above "Clock IC Back-up Check".
- The open-circuit voltage of the replaced battery is 3.0 V or more as the new one, and when it is 2.0 V or less, it is completely consumed, replace it with new one.
- After the battery replacement, perform "Clock IC Back-up Check" again and set the time. (See page 12 for clock setting.)

Clock Frequency Check

Check Procedure:

1. Connect a frequency counter to pin ⑮ of IC330 and GND on the main board.
2. Turn power on and confirm that the reading on the frequency counter is 2048.00 ± 0.02 Hz. (at normal temperature)
3. Perform "Clock IC Back-up Check" described above.

Clock Frequency Adjustment

Precautions:

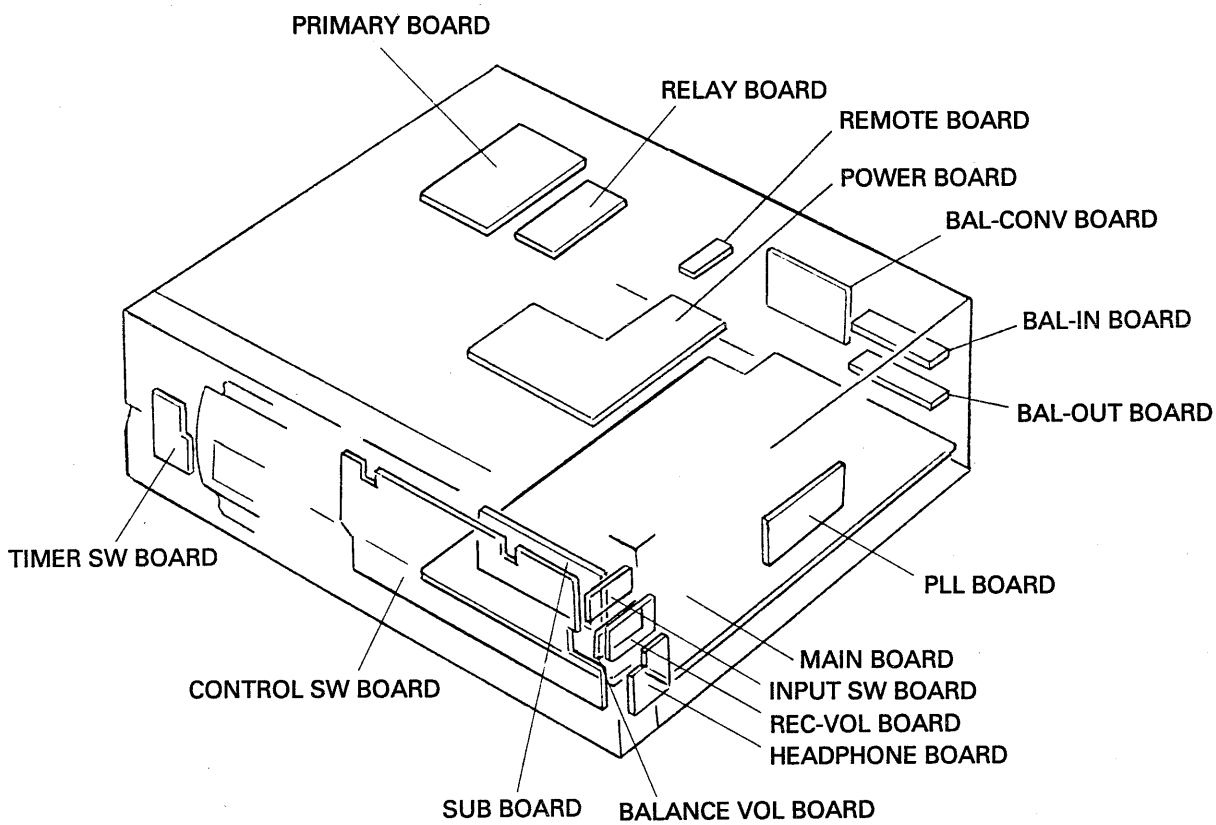
- Only when the adjustment of clock frequency is required (for instance, after the replacement of the X304), adjust it according to the following procedures:
- Be sure to use a frequency counter with a minimum indication accuracy of 6 digits.
- This adjustment is not needed during normal repaire work. Never rotate the trimmer capacitor CT301.

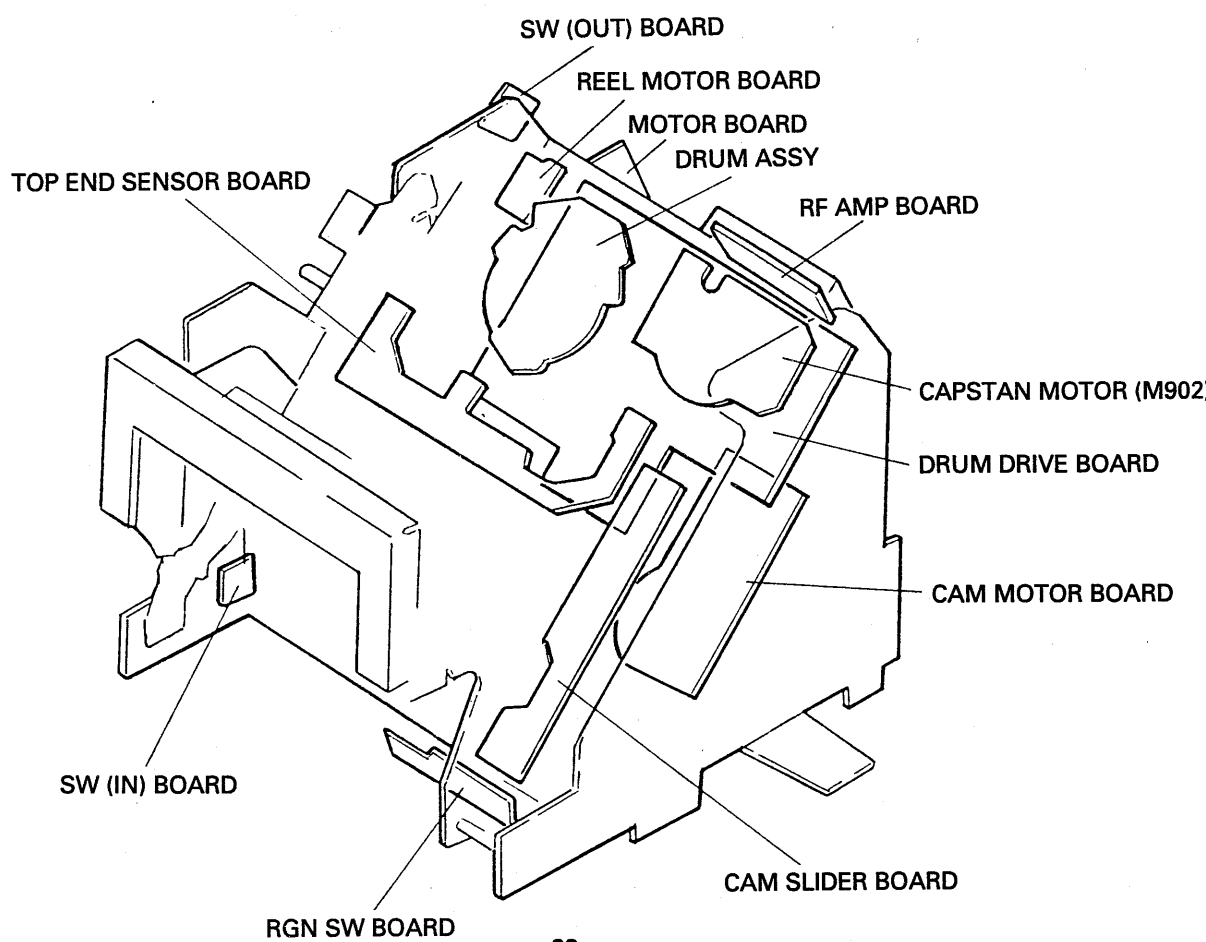
Adjustment Procedure:

(1) Connect a frequency counter across the test land "OSC FREQ" and GND in the main board.
(2) Turn power on and adjust the trimmer capacitor CT301 so that the frequency satisfies the following specifications:
Specifications : 2048.00 ± 0.01Hz (at normal temperature)
(2047.99 — 2048.01Hz)
(3) Perform "Clock IC Back-up Check" described above.

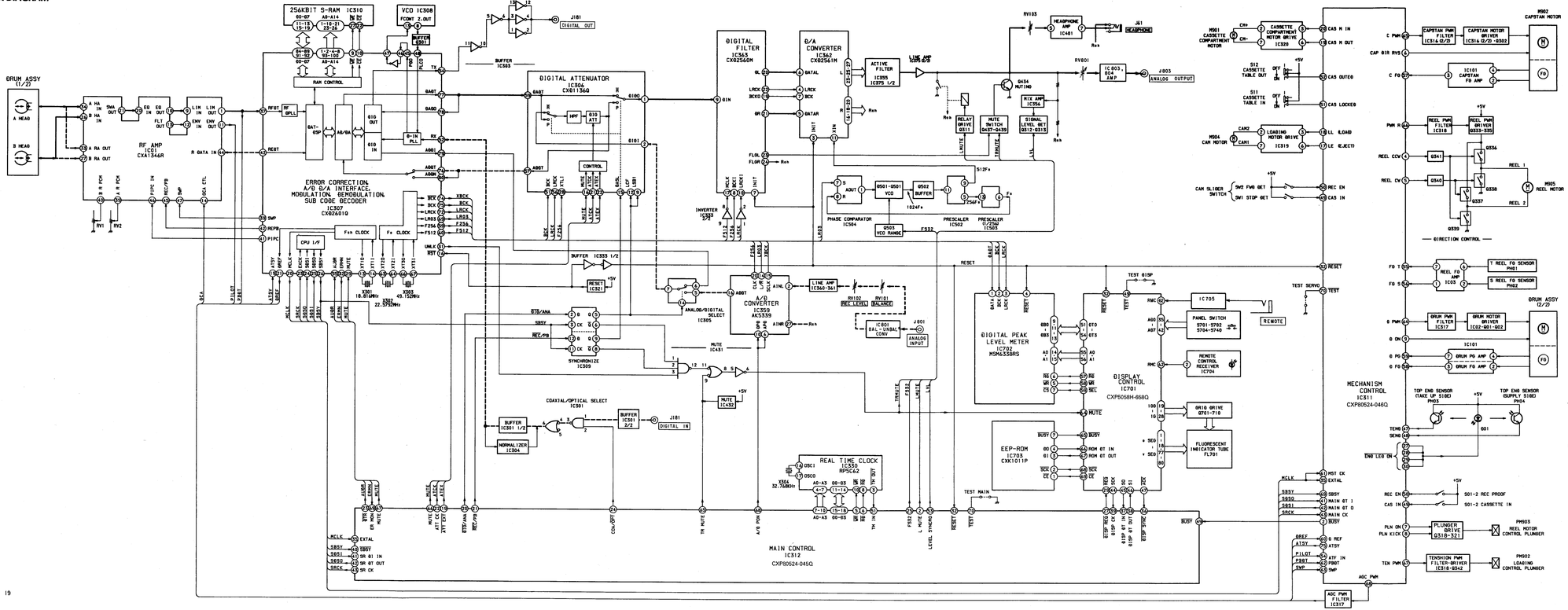
SECTION 4
DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION





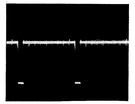
4-2. BLOCK DIAGRAM



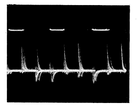
4-3. WAVEFORMS

❶ FL701 ⑪-⑭pin
36Vp-p, 1ms

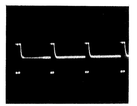
❷ IC701 ㉕-㉘pin
38Vp-p, 0.5μs



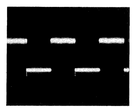
❸ IC701 ①-④pin
36Vp-p, 2μs



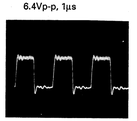
❹ IC701 ㉙-㉜pin
5.2Vp-p, 10ms



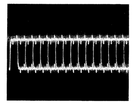
❺ IC702 ③pin
5.2Vp-p, 5μs



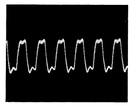
❻ IC702 ②pin
6.4Vp-p, 1μs



❼ IC702 ①pin
5Vp-p, 0.5μs

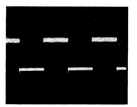


❽ IC306 ㉔pin
5Vp-p, 0.5μs

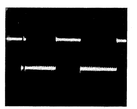


❾ IC306 ⑮pin
6Vp-p, 0.1μs

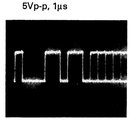
❿ IC306 ⑭pin
5Vp-p, 5μs



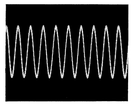
⓫ IC306 ⑤pin
5Vp-p, 5μs



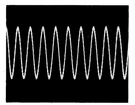
⓬ IC306 ①,⑨pin
5Vp-p, 1μs



⓭ IC307 ⑬pin
4.2Vp-p, 18MHz

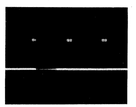


⓮ IC307 ⑭pin
3Vp-p, 18MHz

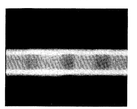


⓯ IC307 ㉒pin
5.2Vp-p, 5ms

⓰ IC307 ㉗pin
5Vp-p, 10ms



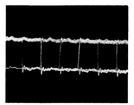
⓱ IC307 ㉙pin
100mVp-p, 2ms



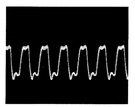
⓲ IC306 ⑨pin
5Vp-p, 0.2μs

⓳ IC307 ④pin
4Vp-p, 0.5μs

⓴ IC307 ⑭pin
6Vp-p, 1μs

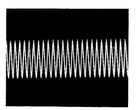


㉑ IC307 ⑤pin
6Vp-p, 0.5μs

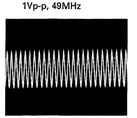


㉒ IC307 ③pin
6Vp-p, 0.5μs

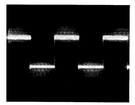
㉓ IC307 ⑧pin
3.6Vp-p, 49MHz



㉔ IC307 ⑫pin
1Vp-p, 49MHz

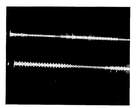


㉕ IC307 ⑩,⑫pin
5Vp-p, 5μs

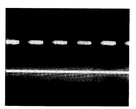


㉖ IC307 ⑬pin
6Vp-p, 0.1μs

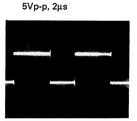
㉗ IC307 ⑥pin
5Vp-p, 1μs



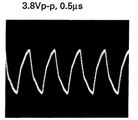
㉘ IC307 ③pin
5Vp-p, 5μs



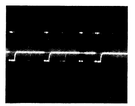
㉙ IC307 ⑨pin
5Vp-p, 2μs



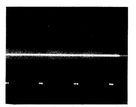
㉚ IC312 ⑤pin
3.8Vp-p, 0.5μs



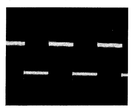
㉛ IC312 ⑧,⑫,⑬pin
5Vp-p, 10ms



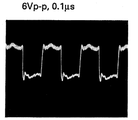
㉜ IC312 ⑭pin
5Vp-p, 10ms



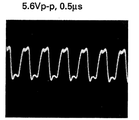
㉝ IC359 ⑬pin
5Vp-p, 0.5μs



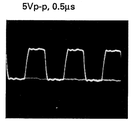
㉞ IC359 ⑬pin
6Vp-p, 0.1μs



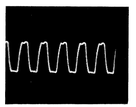
㉟ IC359 ⑫pin
5.6Vp-p, 0.5μs



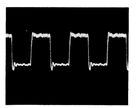
㊱ IC362 ⑤,⑥pin
5Vp-p, 0.5μs



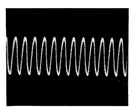
㊲ IC362 ⑦pin
5Vp-p, 0.5μs



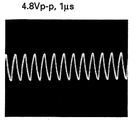
㊳ IC363 ⑧pin
6.4Vp-p, 0.1μs



㊴ IC362 ⑪pin
7Vp-p, 0.5μs



㊵ IC363 ⑰pin
4.8Vp-p, 1μs



㊶ IC362 ⑮,⑯,⑰,⑱,⑳pin
6Vp-p, 0.1μs

㊷ IC330 ⑱pin
1Vp-p, 32.768kHz

㊸ IC330 ⑰pin
16Vp-p

㊹ IC311 ⑭pin
4.5Vp-p, 0.5μs

㊺ IC311 ⑤pin
5Vp-p, 2ms

㊻ IC311 ⑱pin
5Vp-p, 2ms

㊼ IC311 ⑩pin
5Vp-p, 10ms

㊽ IC311 ⑰pin
5Vp-p, 10ms

㊾ IC311 ⑬pin
3.5Vp-p, 10μs

㊿ IC311 ⑯pin
100mVp-p, 10μs

(51) IC311 ⑫pin
5Vp-p, 10μs

(52) IC311 ⑱pin
5Vp-p, 10μs

(53) IC311 ⑮pin
15mVp-p, 10μs

4-4. SEMICONDUCTOR LEAD LAYOUTS

CS5339-KP
CXD2561M

CXA1364R

CXD1136Q

CXD2560M

CXD2601AQ

CXK58257M-12L

CXP5058H-658Q
CXP80524-046Q
CXP80524-046Q

CX20115A

CXK1011P
LF412CN
M5238P
NE5532P
RC4558P
RC4560DD
μPC358C

MC74AC74N
SN74HCU04N
SN74HC10NS
SN74HC393AN
SN74HC74ANS
SN74LS624N
TC74HC132AP

MSM6338RS
SN74HC153NS

M5F7805L
M5F7805L-720
M5F7808
M5F7812L
TA7805S
μPC2406HF

M5F7912L
TA7905S

M54641L

PST529C
PST529E

RP5C62

TC5081AP

DTA114ES
DTC114ES

2SA1585S-QR
2SC4115S-QR
2SC2785-HFE

letter side

2SA933S-QR
2SC3623A-K
2SD1387

2SB1370-EF

2SB734-34
2SD1312-K

2SB798-DL

2SC1623

2SK241-GR

HZS24-3L
HZS6A1L
HZS6A1LT2
1SS168
1SS202-1
11EQS04
11ES2

KV1320

RBA-406B

1SS106
30DF2

4-5. PRINTED WIRING BOARDS

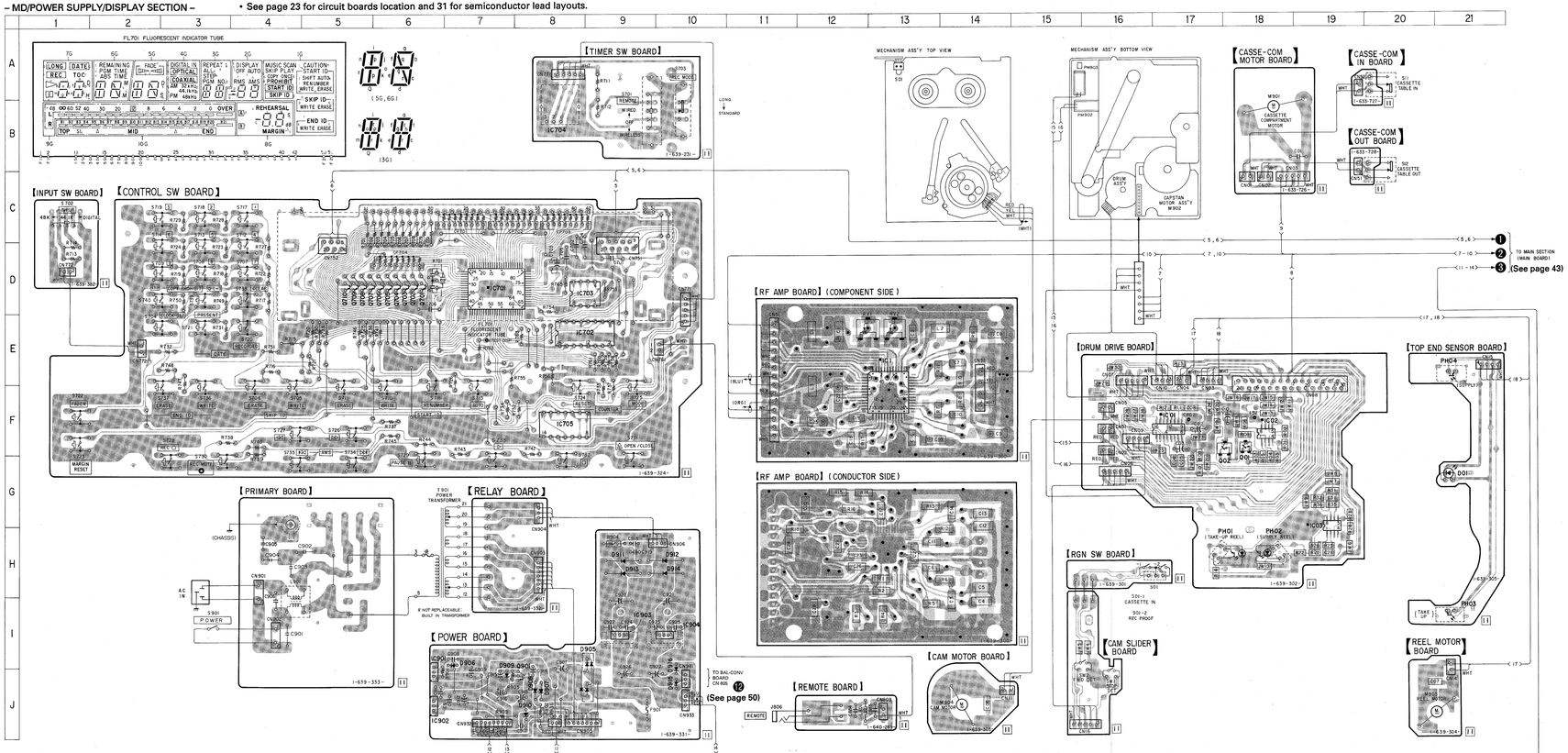
● SEMICONDUCTOR LOCATION

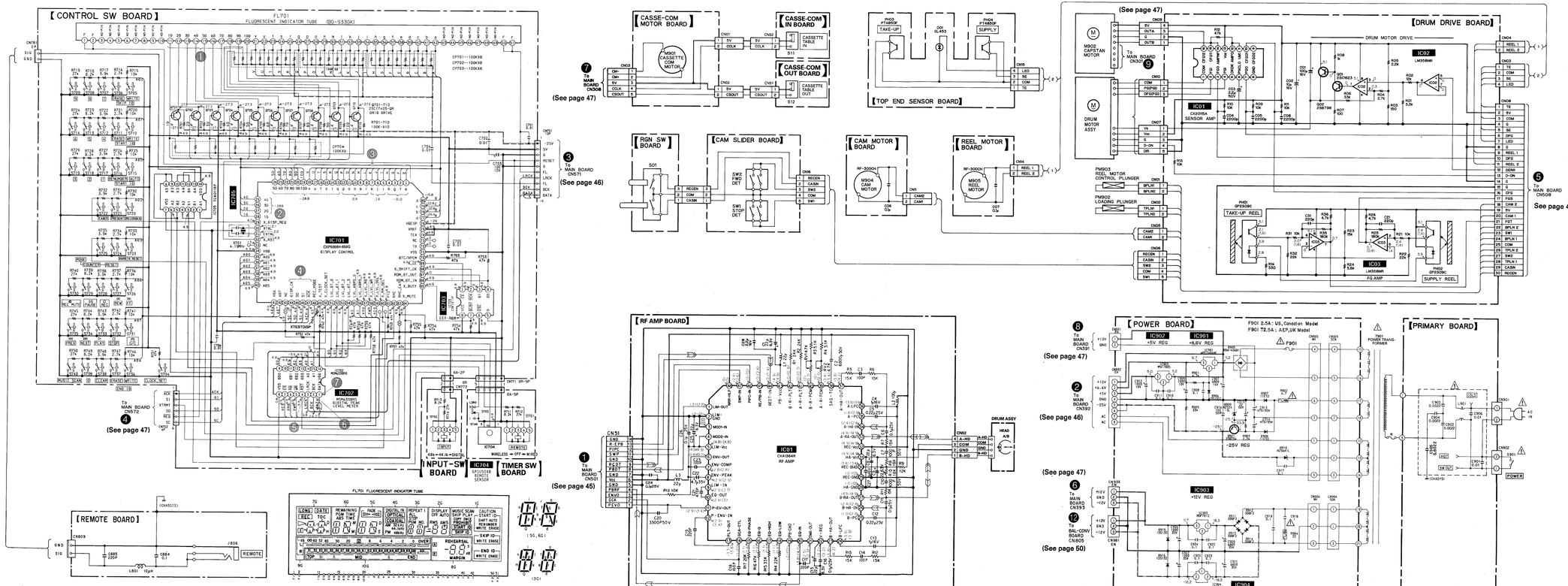
Ref. No.	LOCATION
D01	G – 21
D905	J – 9
D906	I – 7
D907	J – 8
D908	J – 8
D909	J – 7
D910	J – 8
D911	H – 9
D912	H – 10
D913	H – 9
D914	H – 10
D915	J – 10
D916	J – 10
IC1	F – 13
IC01	F – 17
IC02	F – 18
IC03	G – 19
IC701	D – 7
IC702	E – 8
IC703	D – 8
IC704	B – 8
IC901	J – 6
IC902	J – 6
IC903	I – 9
IC904	I – 10
PH01	H – 17
PH02	H – 18
PH03	I – 21
PH04	E – 21
Q01	F – 18
Q02	F – 18
Q701	D – 6
Q702	D – 6
Q703	D – 6
Q704	D – 6
Q705	D – 6
Q706	D – 6
Q707	D – 5
Q708	D – 5
Q709	D – 5
Q710	D – 5
Q901	J – 8

Notes on printed wiring board:

- ⟷: indicated a lead wire mounted on the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

• See page 23 for circuit boards location and 31 for semiconductor lead layouts.





Notes on schematic diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : internal component.
- ⏦: Fuse resistor

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- ═══: B+ Line.
- ═══: B− Line.
- Voltage are dc with respect to ground under no-signal (STOP) conditions.
  no mark : Stop
  ( ) : PLAY
  < > : REC
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  : PB
  : REC

4-7. PRINTED WIRING BOARDS

● SEMICONDUCTOR LOCATION

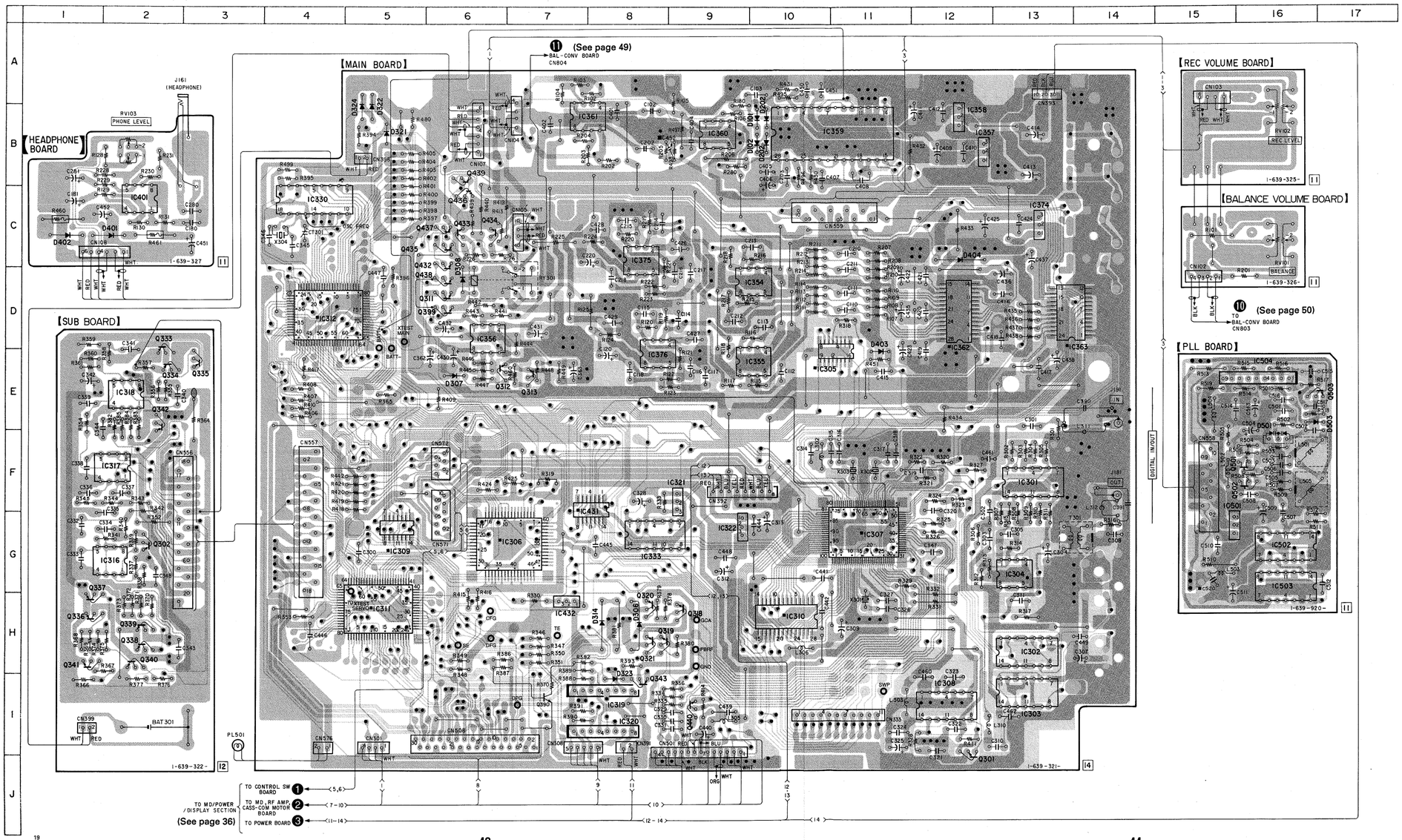
Ref. No.	LOCATION	Ref. No.	LOCATION
D101	A – 7	IC361	B – 7
D102	A – 7	IC362	D – 12
D201	B – 7	IC363	D – 13
D202	B – 7	IC374	C – 13
D306	H – 8	IC375	C – 8
D307	E – 6	IC376	E – 8
D308	D – 6	IC401	C – 2
D314	H – 8	IC431	F – 8
D321	B – 5	IC432	H – 7
D322	B – 5	IC501	G – 15
D323	I – 8	IC502	G – 16
D324	B – 5	IC503	G – 16
D401	C – 2	IC504	E – 16
D402	C – 1		
D403	E – 11	Q301	I – 12
		Q302	G – 2
D404	C – 12	Q311	D – 6
D501	F – 16	Q312	E – 6
D503	E – 16	Q313	E – 7
IC301	F – 13	Q318	H – 7
IC302	H – 13	Q319	H – 8
IC303	I – 13	Q320	H – 8
IC304	G – 13	Q321	H – 8
IC305	E – 11	Q333	D – 2
IC306	G – 6	Q334	E – 2
IC307	G – 11	Q335	E – 3
IC308	I – 12	Q336	H – 1
IC309	G – 5	Q337	H – 1
IC310	H – 10	Q338	H – 2
IC311	H – 5	Q339	H – 2
IC312	D – 4	Q340	H – 2
IC316	G – 2	Q341	H – 1
IC317	F – 2	Q342	E – 2
IC318	E – 2	Q343	I – 8
IC319	I – 8	Q399	D – 6
IC320	I – 8	Q432	C – 6
IC321	F – 9	Q433	C – 6
IC322	G – 9	Q434	C – 6
IC330	C – 4	Q435	C – 6
IC331	G – 14	Q436	C – 6
IC332	H – 14	Q437	C – 6
IC333	G – 8	Q438	D – 6
IC354	D – 10	Q439	B – 6
IC355	E – 10	Q440	I – 9
IC356	D – 6	Q501	F – 16
IC357	B – 12	Q502	F – 16
IC358	B – 12	Q503	E – 16
IC359	B – 10		
IC360	B – 9		

Notes on printed wiring board:

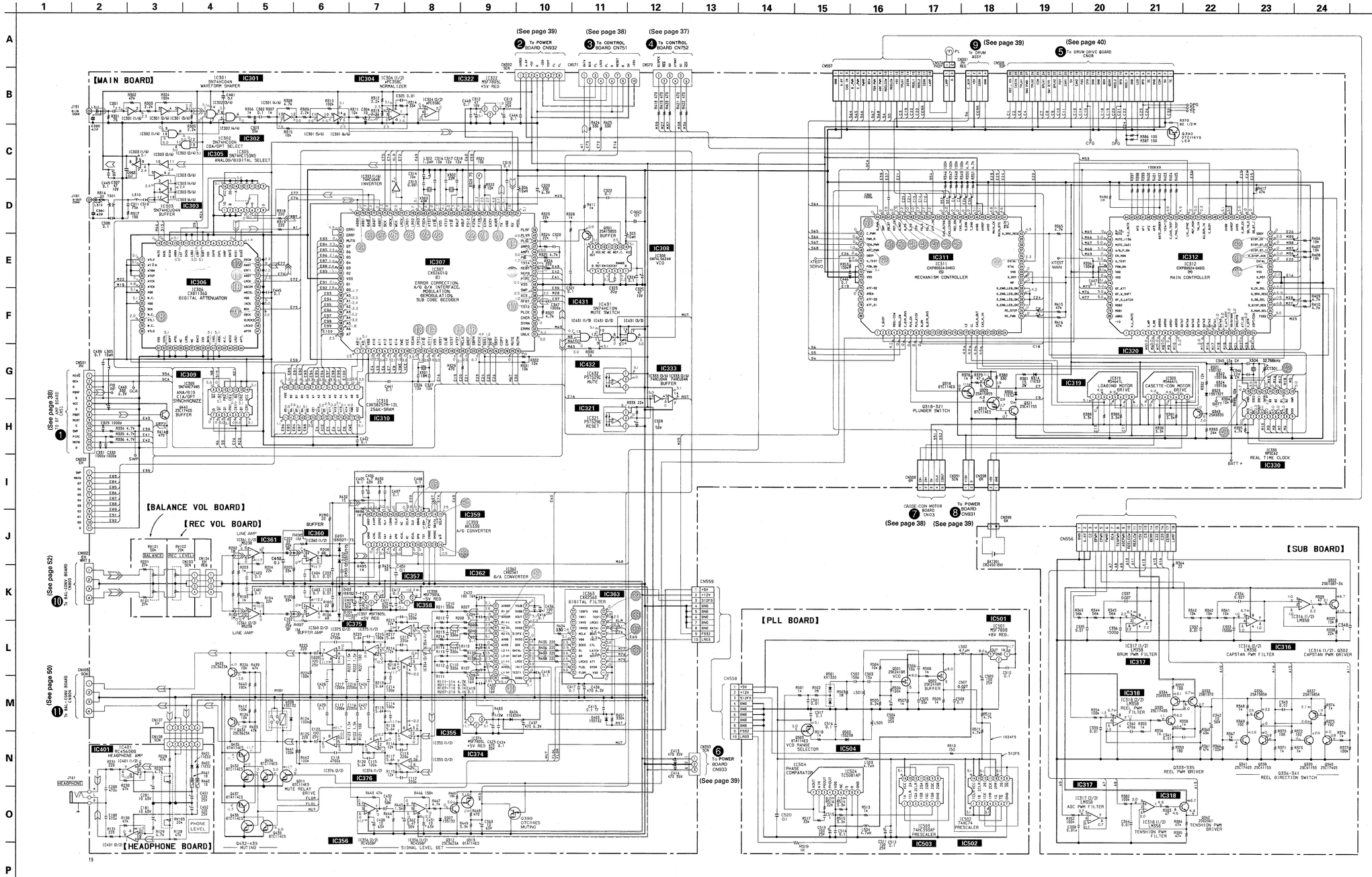
- ○——: indicated a lead wire mounted on the component side.
- ●——: indicated a lead wire mounted on the conductor side.
- ■ : parts mounted on the conductor side.
- ⊢⊣ : indicates side identified with part number.
- ● : Through hole.
- ▒▒ : Pattern from the side which enables seeing.
- ▒▒ : Pattern of the rear side.

– MAIN SECTION –

• See page 23 for circuit boards location and 31 for semiconductor lead layouts.



• See page 29 for waveforms, 53 for IC block diagrams and 57 for pin functions.



Notes on schematic diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- RW½: Fuse resistor

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▪▪▪▪: B ⊕ Line.
- ▪ ▪ ▪ ▪: B ⊖ Line.
- Voltage are dc with respect to ground under no-signal (STOP) conditions.
  no mark : Stop
  ( ) : PLAY
  < > : REC
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  ≫ : PB
  ≫ : REC

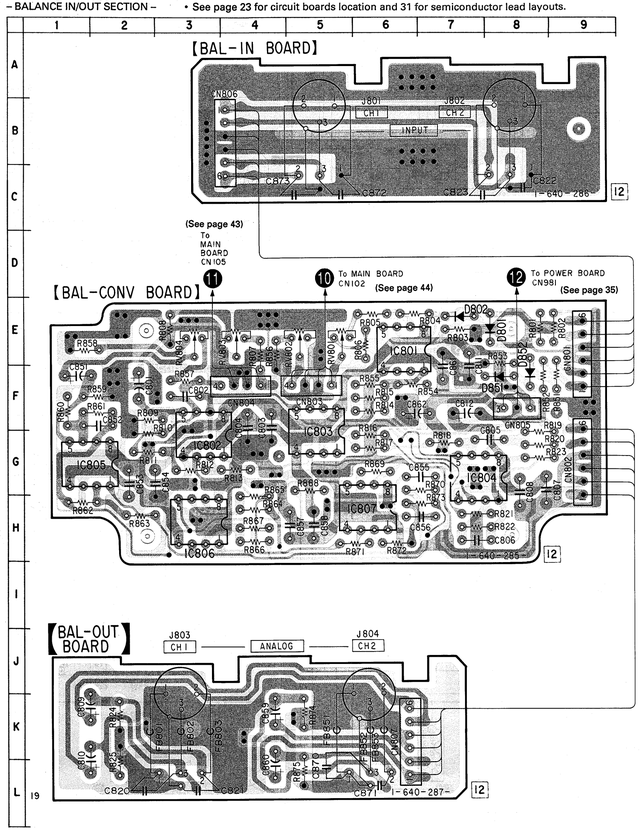
4-9. PRINTED WIRING BOARDS

– BALANCE IN/OUT SECTION –

• See page 23 for circuit boards location and 31 for semiconductor lead layouts.

● SEMICONDUCTOR LOCATION

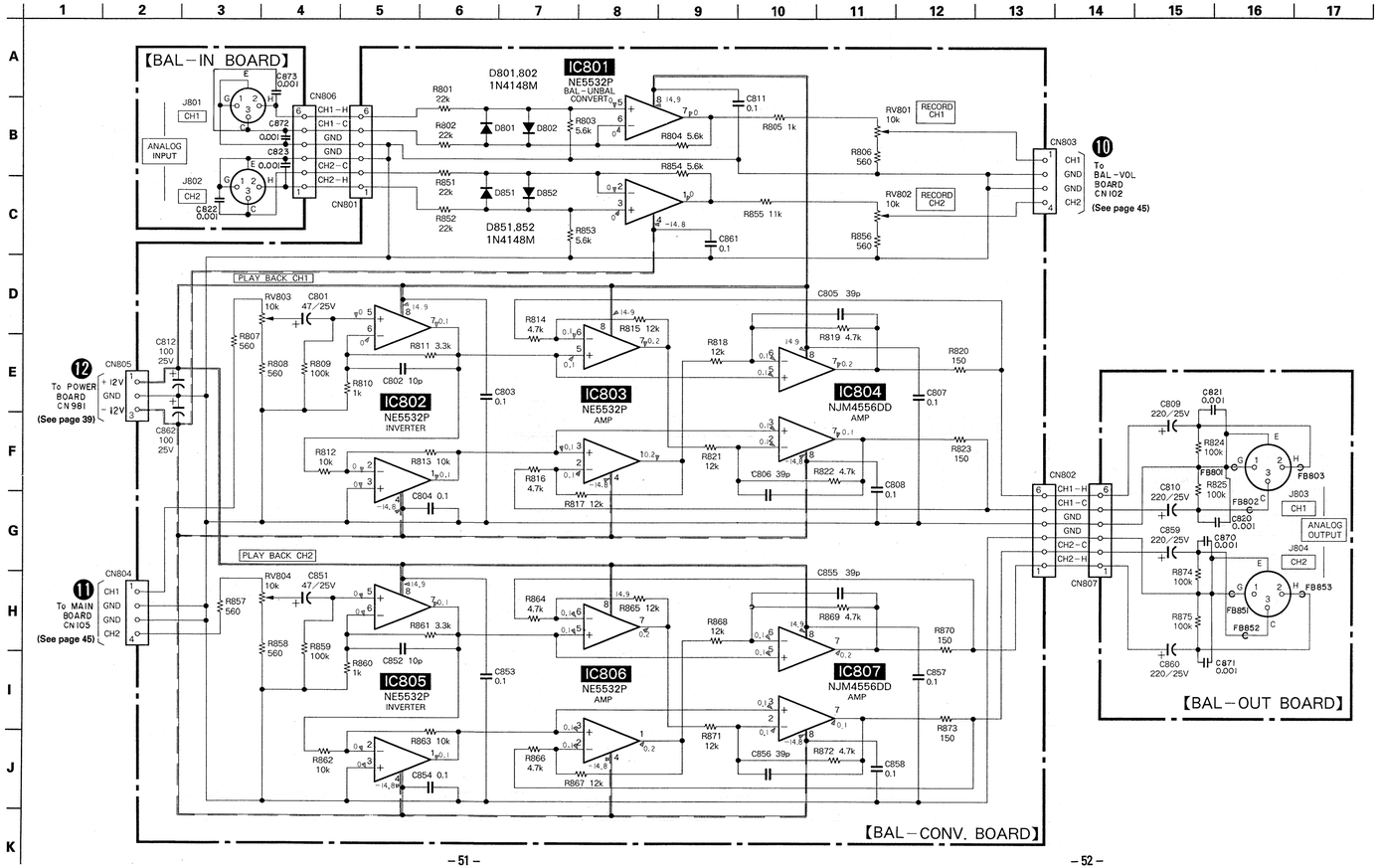
Ref. No.	LOCATION
D801	E-7
D802	E-7
D851	F-7
D852	F-8
IC801	E-6
IC802	G-3
IC803	G-5
IC804	G-7
IC805	G-1
IC806	H-3
IC807	H-5



Notes on printed wiring board:
- ○——: indicated a lead wire mounted on the component side.
- ● : Through hole.
- ▒▒ : Pattern from the side which enables seeing.
- ▒▒ : Pattern of the rear side.

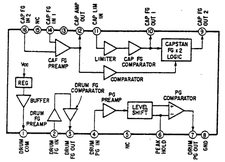
4-10. SCHEMATIC DIAGRAM – BALANCE IN/OUT SECTION –

Notes on schematic diagram:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- ▭▭▭ : B + Line.
- = = = = : B – Line.
- ▭ : adjustment for repair.
- Voltage are dc with respect to ground under no-signal (STOP) conditions.
  no mark : Stop
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

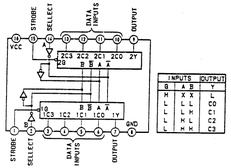


4-11. IC BLOCK DIAGRAMS

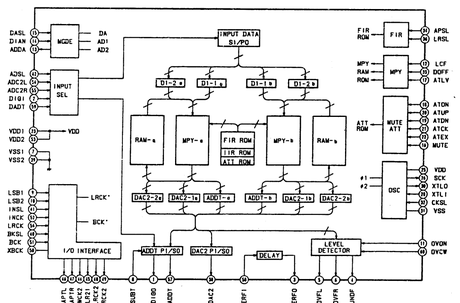
IC01 CX20115A



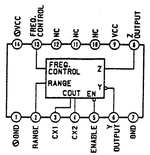
IC305 SN74HC153NS



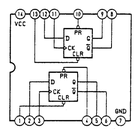
IC306 CXD1136Q



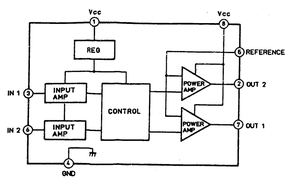
IC308 SN74LS624N



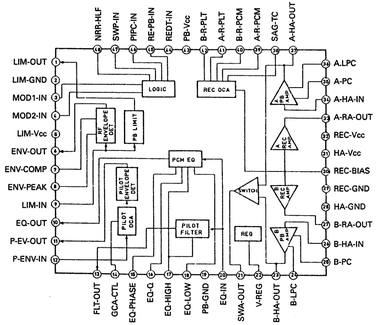
IC309 SN74HC74NS



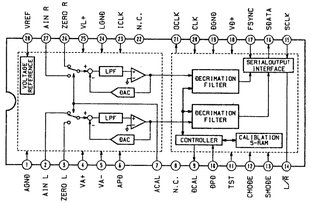
IC319,320 M54641L



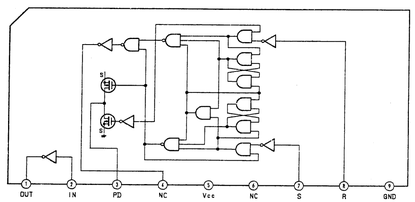
IC1 CXA1364R



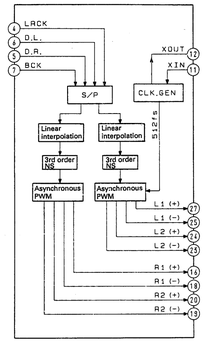
IC359 AK5339



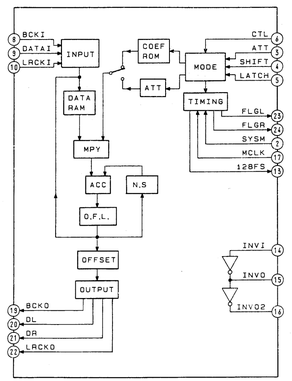
IC504 TC5081AP



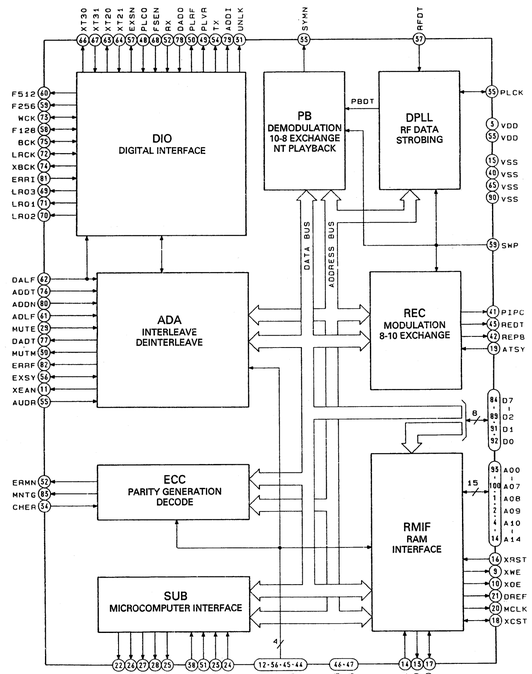
IC362 CXD2561M



IC363 CXD2560M



IC307 CXD2601AQ



4-12. PIN FUNCTIONS

IC306 Digital Attenuator (CXD1136Q)

The captioned attenuator is used with the equipment as a digital attenuator in fade IN and fade OUT.

Pin No.	Pin Name	I/O	Description
1	DIGO	O	Serial data output synchronized with BCK (complement of 2)
2	DIGI	I	Serial data input synchronized with BCK (complement of 2)
3	ERFO	O	Signal output for discriminating whether or not DADT has interpolated data
4	UNDF	O	Detect result for ADDT L, R channel data of –54 dB or less ("L": –54 dB or less)
5	OVFL	O	Detect result for ADDT L channel overflow ("L": overflow detected)
6	OVFR	O	Detect result for ADDT R channel overflow ("L": overflow detected)
7	VSS		GND
8	SUBT	I	Selects whether subcode or 18-bit data is output to ADDT and DIGO ("H" or open: 18-bit data output, "L": subcode output)
9	LSB1	I	MSB/LSB fast switching for DADT, ADDT, DIGI, DIGO ("H" or open MSB fast, L: LSB fast)
10	LSB2	I	MSB/LSB fast switching for DAC2, ADC2L (ADC2R) ("H" or open MSB fast, L: LSB fast)
11	OVON	I	Overflow detect result on/off ("H" or open: OVFL, OVFR output valid, L: OVFL, OVFR fixed "H")
12	LCF	I	Low-cut filter on/off ("H" or open: on)
13	ADDA	O	"H" in AD mode (DASL = DIAN = "L")
14	DIAN	I	Sets AD and DA modes
15	DASL	I	Sets AD and DA modes
16	MUTE	I	Soft muting on/off ("H": mute on)
17	ATLV	I	Digital volume range setting ("H" or open: 0 - –60, – ∞ dB, "L": +12 - –48, ∞ dB
18	ATON	I	Digital volume on/off ("H" or open: off)
19	ATDN	I	Digital volume level down
20	ATUP	I	Digital volume level up
21	ATCK	I	Digital volume level setting clock and soft muting external clock
22	ATEX	I	Soft muting operation clock selection ("H" or open: internal clock, "L": ATCK)
23	VDD	—	Power supply (+5 V)
24	NC		
25	VDD'	—	Oscillator circuit power supply (+5 V)
26	SCK	O	Oscillator clock output
27	NC		
28	XTLI	I	Crystal connector and clock input pin
29	NC		
30	XTLO	O	Crystal connector pin (24.576 MHz oscillation frequency possible)
31	VSS'	—	Oscillator circuit GND
32	CKSL	I	Oscillator clock division selection ("H" or open: no division, "L": 1/2 division)
33	NC		
34	NC		
35	DOFF	I	DAC2 digital offset on/off ("H" or open: on)
36	APSL	I	Aperture correction filter coefficient selection (not valid in AD mode) ("H" or open: correction active)
37	LRSL	I	L, R channel phase difference correction selection ("H" or open: correction active)
38	DAC2	O	Serial data output to 2-times oversampling DA converter (complement of 2)
39	VSS	—	Power supply (+5 V)
40	BKSL	I	LRCK, BCK input timing switch ("H" or open: LRCK change point and BCK leading edge synchronized, "L": LRCK change point and BCK trailing edge synchronized)
41	INSL	I	DADT, DIGI, ADC2L (ADC2R) data incorporation clock selection ("H" or open: BCK, "L": INCK)
42	ADSL	I	ADC2L, ADC2R data selection ("H" or open: ADC2L, "L": ADC2L and ADC2R switched by LRCK2)
43	NC		
44	WCK2	O	Clock equivalent to 4fs
45	LR21	O	DAC2 L, R channel discrimination signal in I^2S format

Pin No.	Pin Name	I/O	Description
46	APTL	O	Aperture signal
47	APTR	O	Aperture signal
48	LRCK2	O	DAC2, ADC2L (ADC2R) L, R channel discrimination signal (equivalent to 2fs) ("L": L channel, "H": R channel)
49	XLRCK2	O	LRCK2 inverted output
50	XBCK	O	BCK inverted output
51	BCK	I	Clock equivalent to 64fs for DADT, ADDT, DIGI, DIGO data incorporation
52	INCK	I	DADT, DIGI, ADC2L (ADC2R) data incorporation clock
53	VDD	—	Power supply (+5 V)
54	ADC2L	I	Serial data input from 2-times oversampling AD converter (complement of 2)
55	ADC2R	I	Serial data input from 2-times oversampling AD converter (complement of 2)
56	LRCK	I	DADT, ADDT, DIGI, DIGO L, R channel discrimination signal (fs) ("L": L channel, "H": R channel)
57	ADDT	O	Serial data output synchronized with BCK (complement of 2)
58	ERFI	I	Signal input for discriminating whether or not DADT has interpolated data (complement of 2)
59	DADT	I	Serial data input synchronized with BCK (complement of 2)
60	OVCW	I	Clock input which determines detect time for OVFL, OVFR and UNDF

IC307 DAT Signal Processor (CXD2601Q)

This processor is an LSI to process recording and playback signals of the R-DAT system, in a single chip and provided with digital PLL, modem, error correction circuit, digital I/O, RAM control circuit, etc.

Pin No.	Pin Name	I/O	Description
1, 2	A08, A09	I/O	RAM address A08, A09
3	VDD	—	5 V
4-6	A10-A12	I/O	RAM address A10-A12
7, 8	A13, A14	O	RAM address A13, A14
9	XWE	O	RAM write enable signal
10	XOE	O	RAM output enable signal
11	XEAN	O	External addressing bus interrupt enable signal
12	TST1	I	Test pin (normally "L")
13	XT1O	O	18.816 MHz crystal oscillator output
14	XT1I	I	18.816 MHz crystal oscillator input
15	VSS	—	GND
16	XRST	I	Reset pin (normally"H")
17	CLKO	I/O	18.816 MHz clock output
18	XCST	I/O	SYEK (internal system clock) generation CLKO division timing signal
19	ATSY	I	ATF sync signal input
20	MCLK	O	9.408 MHz clock output
21	DREF	O	Drum servo reference signal
22	SBPM	O	Discrimination signal determining whether the subcode I/O clock (EXCK) is accepted ("L": accept, "H": ignore)
23	EXCK	I	Subcode I/O data transfer clock (DUTY50)
24	SDSI	I	Subcode serial data input
25	SDSO	O	Subcode serial data output
26	SBSY	O	Subcode I/O sync signal
27	COPY	O	Copy data output
28	EMP	O	Emphasis data output
29	MUTE	I	Mute pin
30	MUTM	O	Mute discrimination signal ("H": muted)
31	UNLK	O	RX PLL lock discrimination signal ("H": locked)
32	ERMN	O	Detects presence or absence of RF ("H": RF present, "L" during REC)

Pin No.	Pin Name	I/O	Description
33	SYMN	O	C1 check result for RF ("H": OK)
34	CHER	I	Signal for discriminating whether C2 is 1 or 2 times (C2 → C1 → C2 or C1 → C2) ("H": 1 time, "L": 2 times)
35	PLCK	I/O	RF PLL clock output
36	TST2	I	Test pin (normally "L")
37	RFDT	I	RF signal input
38	XCS	I	Subcode I/O chip select ("L": select)
39	SWP	I	RF switching pulse ("L": A-CH, "H": B-CH)
40	VSS	—	GND
41	PIPC	O	REC data PILOT/PCM discrimination signal ("H": PILOT, during playback: always "L")
42	REPB	O	Record/playback switching signal ("H": record)
43	REDT	O	Recording signal output, fixed "L" during playback
44	TST4	I	Test pin (normally "L")
45	TST3	O	RX APLL PD output (comparator output)
46	TST5	I	RX APLL oscillator cell amp input
47	TST6	O	RX APLL oscillator cell amp inverted output
48	PLCO	I	RX APLL external VCO clock input
49	PLVR	O	RX APLL comparison signal when external comparator is active (Vin) Not in use
50	PLVF	O	RX APLL comparison signal when external comparator is active (Rin) Not in use
51	MSSL	I	Master/slave setting ("H": master (fixed with the equipment), "L": slave)
52	RX	I	Digital input
53	VDD	—	5 V
54	TX	O	Digital output
55	AUDR	I	Audio mode/data recorder mode setting ("H": audio mode, "L": data recorder mode)
56	EXSY	I/O	Complete copy sync signal (25/3 - 100/3 Hz)
57	EXSN	I/O	Complete copy sync signal (25/3 - 100/3 Hz)
58	F128	I/O	128fsCK (normal)/256fsCK (×2) (DUTY50)
59	F256	O	256fsCK (normal)/512fsCK (×2) (DUTY50)
60	F512	O	512fsCK (normal)/512fsCK (×2) (DUTY50)
61	ADLF	I	Signal for discriminating whether ADDT serial data is MSB first or LSB first ("H": LSB first)
62	DALF	I	Signal for discriminating whether DADT serial data is MSB first or LSB first ("H": LSB first)
63	XT20	O	22.5792 MHz crystal oscillator output
64	XT21	I	22.5792 MHz crystal oscillator input
65	VSS	—	GND
66	XT30	O	49.152 MHz crystal oscillator output (24.576 MHz in B mode)
67	XT31	I	49.152 MHz crystal oscillator input (24.576 MHz in B mode)
68	FSEN	I	F128, BCK, LRCK input/output switch ("H": output)
69	LR03	O	LR02 inversion
70	LR02	O	LRCK 16BCK delay signal
71	LR01	O	LRCK 15BCK delay signal
72	LRCK	I/O	fs (normal)/2fs (×2) ("L": L-CH, "H": R-CH)
73	WCK	I/O	2fs (normal)/4fs (×2) (input mode only for testing)
74	XBCK	O	BCK inversion
75	BCK	I/O	64fs (normal)/128fs (×2)
76	ADDT	I	Serial AD data (complement of 2)
77	DADT	O	Serial DA data (complement of 2)
78	DADO	I	Digital output (DA) data input (normally connected to DADT)
79	ADDI	O	Digital input (AD) data output (normally connected to ADDN)
80	ADDN	I	Digital input (DA) data input
81	ERRI	I	Digital output V-FLAG data input (normally connected to ERRF)
82	ERRF	O	Signal output for discriminating whether or not DADT has interpolated data ("H": interpolated data)

Pin No.	Pin Name	I/O	Description
83	MNTG	O	Error correction status monitor trigger
84-89	D7-D2	I/O	RAM data bus D7-D2
90	VSS	—	GND
91, 92	D1, D0	I/O	RAM data bus D1, D0
93-100	A00-A07	I/O	RAM address A00-A07

IC311 Mechanism/Servo Micon (CXP80524-046Q)

The mechanical deck servo systems are controlled by the captioned micon according to instructions from the main micon (IC312).

Pin No.	Pin Name	I/O	Connected to	Description
1		O		Not in use
2	$\overline{\text{BUSY}}$	O	Main Micon	Busy (Active "L") to the Main Micon
3		O		Not in use
4	REEL_CCW	O	Mechanism	Reel motor CCW ("L": RVS direction) } *1
5	REEL_CW	O	Mechanism	Reel motor CW ("H": FWD direction) } *1
6	C_DIR_RVS	O	Mechanism	Capstan Direction ("L": FWD, "H": RVS)
7	PLN_ON	O	Mechanism	Plunger On
8	PLN_KICK	O	Mechanism	Plunger Kick
9	D_ON	O	Mechanism	Drum On ("H": The drum is revolving)
10	D_DIR_RVS	O	Mechanism	Not in use
11-16		O		Not in use
17	LE	O	Mechanism	Loading Motor Eject } *2
18	LL	O	Mechanism	Loading Motor Load } *2
19	CAS_M_OUT	O	Mechanism	Cassette control motor Out } *3
20	CAS_M_IN	O	Mechanism	Cassette control motor In } *3
21-24		—		Not in use
25	RE_FWD	I	Mechanism	Encoder SW2 } *4
26	RE_STOP	I	Mechanism	Encoder SW1 } *4
27-30	$\overline{\text{END\_LED\_ON}}$	O	Mechanism	End sensor ON Illuminated upon "L" (rectangular wave of about 1kHz). It is not output unless a cassette is mounted ("H").
31	$\overline{\text{MP}}$	I		Microprocessor mode selected (the equipment is fixed at "L").
32	$\overline{\text{RST}}$	I		System Reset (low active)
33	Vss	—		Power terminal (GND)
34	XTAL	O		System Clock Output
35	EXTAL	I	CXD2601AQ	System Clock Input (9.408 MHz)
36-39		—		Not in use
40	X_SRV_REQ	I	Main Micon	Request for communication from the Main Micon
41	MAIN_DT_I	I	Main Micon	Serial Input from the Main Micon
42	MAIN_DT_O	O	Main Micon	Serial Output to the Main Micon
43	MAIN_CK	I	Main Micon	Serial Clock with the Main Micon
44	AVss	—		GND for A/D
45	AVref	—		Reference Voltage for A/D (+5 V)
46	AVdd	—		Power Supply for A/D (+5 V)
47	T_END	I	Mechanism	Take-up side end sensor input (analog) } Magnetic matter: 0V,
48	S_END	I	Mechanism	Supply side end sensor input (analog) } Leader tape: AC (*5)
49	CAS_IN	I	Mechanism	Cassette-in switch (S01). "H": Cassette is mounted.
50	REC_EN	I	Mechanism	Rec-enable switch (S01). "H": REC enabled.
51	CAS_LCKed	I	Mechanism	Casecon locked Upon completion of loading: "H"
52	CAS_OUTed	I	Mechanism	Casecon outed Upon completion of loading OUT: "H"
53		I		Not in use
54	ATF_IN	I	RF Amp	ATF PILOT input
55	FG_T	I	Mechanism	Reel FG (T Side) } 6/24Hz (Small reel diameter) -
56	FG_S	I	Mechanism	Reel FG (S Side) } 15/24Hz (Large reel diameter) (In SP FWD)
57	C_FG	I	Mechanism	Capstan FG SP: 674 Hz, LP: 337 Hz
58	D_FG	I	Mechanism	Drum FG 400 Hz: LP REC, 800 Hz: Other modes
59	D_PG	I	Mechanism	Drum PG } Other than LP REC: 800/24Hz
60	D_REF	I	CXD2601AQ	Drum Reference } In LP REC: 400/24Hz

Pin No.	Pin Name	I/O	Connected to	Description
61	MST_CK	I	CXD2601AQ	Master clock (9.408MHz)
62	PB_DT	I	RF Amp	PB Data input to create ATF Sync
63	SWP	O	CXD2601AQ	Switching Pulse "L": Ach, "H": Bch
64	D_PWM	O	Mechanism	PWM Out for Drum
65	C_PWM	O	Mechanism	PWM Out for Capstan
66	PWM_R	O	Mechanism	PWM Out for Reel
67	TEN_PWM	O	Mechanism	PWM Out for Tension Regulator Plunger
68	AGC_PWM	O	RF Amp	PWM Out for AGC
69	$\overline{\text{SBSY}}$	I	CXD2601AQ	↓ of subsync is detected (XINT2).
70	$\overline{\text{TEST}}$	I	Pull-up	Test Mode (active "L")
71	POW_DN	I		Not in use
72	Vdd	—		Power terminal (+5 V)
73	Vss	—		Power terminal (GND)
74		—		Not in use
75	ATF_S2	O	CXD2601AQ	ATF Sampling Pulse
76-80		—		Not in use

* 1 Reel motor control

	CCW (counterclockwise)	CW (clockwise)
STOP (only in POWER ON)	L	L
FWD	L	H
RVS	H	L
Prohibit	H	H

*2 Loading motor control

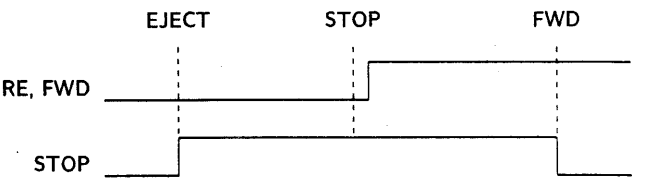
	LE	LL
—	L	L
LOAD	L	H
EJECT	H	L
Brake	H	H

*3 Casecon motor control

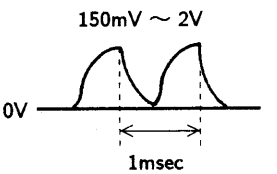
	OUT	IN
—	L	L
IN	L	H
OUT	H	L
Brake	H	H

*4 Encoder

RF-FWD	RE_STOP	Position
L	L	EJECT
L	H	STOP UNLD-STOP
H	L	FWD
H	H	STOP-FWD



*5 End sensor



With leader tape

IC312 Main Micon (CXP80524-045Q)

This Micon generally controls the operation of the equipment while exchanging data with the display micon (IC701) and mechanism/servo micon (IC311) in serial communications, including the DAT signal processor (IC307), attenuator (IC306), clock (IC330), digital filter (IC363) and other IC.

Pin No.	Pin Name	I/O	Connected to	Description
1		O		Not in use
2	L_MUTE	O	Line Out	Line Mute (Active "L")
3		O		Not in use
4		O		Not in use
5	WRT	O	Clock IC	Write request (Active "L")
6	RD	O	Clock IC	Read request (Active "L")
7-10	ADRS_3-0	O	Clock IC	Address 3-0 (Address BUS)
11-14	DATA_7-4	I/O		DATA 7-4 (DATA BUS). Not in use with the equipment
15-18	DATA_3-0	I/O	Clock IC	DATA 3-0 (DATA BUS)
19	ATT_EXT	O	CXD1136Q	Fade attenuator ck externally selected (Active "L")
20	DIG/ANA	O	CXD1136Q	Fade In/Out switching for DIG ("L")/ANA ("H")
21	REC/PB	O	CXD1136Q	Fade In/Out REC switching for ("L")/PB ("H")
22	ATT_CK	O	CXD1136Q	Clock for fade In/Out
23	DTR	O	CXD2601AQ	Audio use ("H")/Data Recorder use ("L). Becomes "L" in after-recording and searching.
24	OPT/COA	O	Digital I/O	Switching for Optical ("L")/Coaxial ("H")
25	FS32	O	1Bit DAC	"H" upon Fs = 32kHz. "L" for others.
26	RAM_SEL	O		Not in use
27	DISP_REQ	O	Display Micon	Request for communication with the Display Micon ("L" Active)
28	SD_REQ	O	CXD2601AQ	Request for communication with CXD2601 ("L" Active)
29	SRV_REQ	O	Mechanism Micon	Request for communication with the Mechanism Micon ("L" Active)
30	CLOCK_SEL	O	Clock IC	Clock IC chip selected
31	MP	I		Microprocessor mode selected (fixed at "L" with the equipment)
32	RST	I		System Reset ("L" Active)
33	Vss	—		Power terminal (GND)
34	XTAL	O		System Clock Output
35	EXTAL	I	CXD2601AQ	System Clock Input (9.048 MHz)
36	DISP_ACK	I	Display Micon	ACKnowledge (Active "L")
37	DISP_DT_I	I	Display Micon	Serial Input
38	DISP_DT_O	O	Display Micon	Serial Output
39	DISP_CK	I	Display Micon	Serial clock
40	SBSY	I	CXD2601AQ	Subcode sync
41	SR_DT_IN	I	CXD2601AQ & Mechanism Micon	Serial Data In
42	SR_DT_OUT	O		Serial Data Out
43	SR_CK	I/O		Serial clock (In/Out) to Sub Code Interface
44	AVss	—		GND for A/D
45	AVref	—		Reference Voltage for A/D (+5 V)
46	AVdd	—		Power Supply for A/D (+5 V)
47		I		Not in use
48		I		Not in use
49	BUSY	I	Mechanism Micon	Mechanism servo micon Busy (Active "L")
50	AU_BUS_IN	I	Audio Bus	Not in use

Pin No.	Pin Name	I/O	Connected to	Description
51	TM_IN	I	Clock IC	TM_OUT for clock IC
52	MUT_MON	I	CXD2601AQ	Mute monitor (Active "H")
53	LVL_SYNC	I	Audio Block	Start ID is written by entering Level Sync Input audio.
54		I		Not in use
55	$\overline{\text{TRQ\_TEST}}$	I	Pull-up	Not in use
56	$\overline{\text{NO\_CAS\_TEST}}$	I	Pull-up	Not in use
57	TIME_$\overline{24}$/12	I	Pull-up	Time indication "H": 12 hours (AM, PM) "L": 24 hours display
58	DATE_ORDER	I	Pull-up	Order of DATA display "H": Year, month and day "L": Month, day and year
59-62	AF_3-0	I	Pull-up	Not in use
63		O		Not in use
64	$\overline{\text{L\_MUTE}}$	O	Pull-up	Line Mute (Active "L"). Not in use with the equipment
65	$\overline{\text{TR\_MUTE}}$	O	Line Out	Transistor Mute (Active "L")
66	MUTE_1136	O	CXD1136Q	Mute for CXD1136 (Active "H")
67	MUTE_2061	O	CXD2601AQ	Mute for CXD2601 (Active "H")
68	A_D_PWR_DWN	O	AK5339	A/D Converter Power Down Mode (Active "H"). The AD converter is turned OFF upon digital input/output.
69	ER_MON	I	CXD2601AQ	Error Monitor (Data Valid)
70	$\overline{\text{TEST}}$	I	Pull-up	Test Mode (Active "L")
71	POW_DN	I	+5 V	Not in use
72	Vdd	—		Power terminal (+5V)
73	Vss	—		Power terminal (GND)
74		—		Not in use
75	D_F_ATT	O	CXD2560M	Communication line (Serial Data) with Digital Filter
76	D_F_$\overline{\text{SHIFT}}$	O	CXD2560M	Communication line with Digital Filter (Shift Clock; shifted by ↓ and taken in by ↑)
77	D_F_$\overline{\text{LATCH}}$	O	CXD2560M	Communication line (Latch Pulse) with Digital Filter
78, 79	MODE2, 1	O	CXA1364R	Mode Control of the RF amplifier
80		O		Not in use

IC330 Real Time Clock (RP5C62)

The Clock is an IC for clock and calendar and backed up by a lithium battery when the power supply to the set is OFF.

Pin No.	Pin Name	I/O	Description
1	$\overline{\text{CS}}$	I	Chip select input. Active "L"
2	CE	I	Chip enable input. Active "H"
3	TMOUT	O	Interval output
4-7	A0-3	I	4 bit address input
8	$\overline{\text{RD}}$	I	Read-out control input
9	Vss	—	Power terminal (GND)
10	$\overline{\text{WR}}$	I	Write-in control input
11-14	D0-3	I/O	4 bit data input/output
15	$\overline{\text{INTR}}$	O	Interrupt output. A 2048Hz signal is output here with the equipment.
16	OSCIN	I	Clock input (32.768kHz)
17	OSCOUT	O	Clock output
18	V_{DD}	—	Power terminal (+5 V)

IC362 Pulse D/A Converter (CXD2561M)

The Converter is a small, high-performance 1 bit pulse D/A converter that provides 4 asymmetrical PWM wave outputs in each ch of L/R.

Pin No.	Pin Name	I/O	Description
1	DVDD	—	Digital power supply
2	TEST	I	Test terminal. Normally fixed at "L."
3	INIT	I	Again synchronized at the buildup edge of the signal.
4	LRCKI	I	LRCK input
5	DRI	I	Rch data input
6	DLI	I	Lch data input
7	BCKI	I	BCK input
8	DVss	—	Digital GND
9	512Fs	O	512Fs output
10	XVss	—	Clock GND
11	XIN	I	X'tal oscillator input terminal (512Fs)
12	XOUT	O	X'tal oscillator output terminal
13	XVDD	—	Clock power supply
14	VSUB	—	Substrate. Connected to GND.
15	AVDDR	—	Analog power supply
16	R1 (+)	O	Rch PLM output 1 (normal phase)
17	AVssR	—	Analog GND
18	R1 (–)	O	Rch PLM output 1 (reverse phase)
19	R2 (+)	O	Rch PLM output 2 (normal phase)
20	R2 (–)	O	Rch PLM output 2 (reverse phase)
21	AVDD	—	Analog power supply
22	AVss	—	Analog GND
23	L2 (–)	O	Lch PLM output 2 (reverse phase)
24	L2 (+)	O	Lch PLM output 2 (normal phase)
25	L1 (–)	O	Lch PLM output 1 (reverse phase)
26	AVssL	—	Analog GND
27	L1 (+)	O	Lch PLM output 1 (normal phase)
28	AVDDL	—	Analog power supply

IC363 Digital Filter (CXD2560M)

The Filter is a digital audio 8x oversampling digital filter with builtin L/R 2ch filter, noise shaping attenuator, soft muting deemphasis, etc.

Pin No.	Pin Name	I/O	Description
1	Vss	—	Power terminal (GND)
2	SYSM	I	System mute input. Effective upon "H"
3	ATT	I	ATT data input in CTL "L." EMP input upon CTL"H."
4	SHIFT	I	Shift clock input upon CTL "L." FS32 input upon CTL "H."
5	LATCH	I	Latch clock input upon CTL "L." FS48 input upon CTL "H."
6	CTL	I	Pull-down in the IC. Direct input mode upon "H." Serial transfer mode upon "L."
7	INIT	I	Synchronized again at the buildup edge of the signal.
8	BCKI	I	BCK input
9	DATAI	I	Data input
10	LRCKI	I	LRCK input
11	TEST	I	Test terminal. Fixed at "L" during normal use.
12	Vss	—	Power terminal (GND)
13	128Fs	O	128Fs clock output
14	INVI	I	Inverter input
15	INVO	O	Inverter output
16	INVO2	O	Inverter output
17	MCLK	I	Master clock input (f=512Fs)
18	VDD	—	Power terminal (+5 V)
19	BCKO	O	BCK output
20	DL	O	Lch data output
21	DR	O	Rch data output
22	LRCKO	O	LRCK output
23	FLGL	O	Lch ø mute flag output
24	FLGR	O	Rch ø mute flag output

IC701 Display Micon (CXP5058H-658Q)

The Micon controls key input, FL tube display, remote control signal input, level meter (IC702) and EEP-ROM (IC703) according to instructions from the Main Micon (IC312).

Pin No.	Pin Name	I/O	Connected to	Description
1-18	e_-v_SEG	O	FL tube FL701	FL Segment 'e'-'v'
19-28	10_-1_G	O	FL tube FL701	FL Grid #10-#1
29	$\overline{\text{DSP\_REQ}}$	I	MAIN Micon	Communication request ("L" Active)
30	XTAL	—	Ceramic oscillator	
31	EXTAL	I	Ceramic oscillator	4.19MHz ceramic oscillator
32	$\overline{\text{RST}}$	I		System Reset ("L" active)
33	NC	—		Not in use
34	Vdd	I		Power terminal (+5 V)
35-42	AD_0-7	I	Panel switch	Key input A/D converter input #0 - #7
43	NC	—		Not in use
44	DISP_CK	O	MAIN Micon	Shift clock
45	SO	O	MAIN Micon	Serial data OUT
46	SI	I	MAIN Micon	Serial data IN
47	$\overline{\text{DSP\_ACK}}$	O	MAIN Micon	Acknowledge (Active"L")
48	REC_MODE	I	S703	REC MODE "H": Standard, "L": Long
49	$\overline{\text{TEST}}$	I	Pull-down	Test mode (Active "L")
50	$\overline{\text{CLOCK\_SET}}$	I	S704	CLOCK SET switch S704 (Active "L")
51-54	LVL_DT_0-3	I/O	Level Meter IC	Level Meter Data 0-3
55, 56	LVL_ADRS_0, 1	O	Level Meter IC	Level Meter Data 0, 1
57	$\overline{\text{LVL\_RD}}$	O	Level Meter IC	Level Meter Read Mode (Active "L")
58	$\overline{\text{LVL\_WR}}$	O	Level Meter IC	Level Meter Write Mode (Active "L")
59	$\overline{\text{LVL\_SEL}}$	O	Level Meter IC	Level Meter IC Select (Active "L")
60	$\overline{\text{RM\_SEL}}$	O	IC703	External remote controller selected
61	PY2	I	Pull-up	Not in use
62	RMC	I	IC703	Remote control data input
63	RMC_CAT	I	Pull-down	Remote control category "L": DAT1, "H": DAT2. Fixed at "L" with the equipment.
64	$\overline{\text{TR\_MUTE}}$	I	IC431	Level meter mute (Active "L")
65	$\overline{\text{BUSY}}$	I	EEPROM	BUSY signal (Active "L")
66	ROM_DT_IN	I	EEPROM	Data input
67	ROM_DT_OUT	O	EEPROM	Data output
68	$\overline{\text{SHIFT\_CK}}$	O	EEPROM	Shift clock
69	$\overline{\text{CE}}$	O	EEPROM	Chip enable
70	DTC/$\overline{\text{XPCM}}$	I	Pull-up	Equipment model discrimination input. Fixed at "H" with the equipment
71	Vss	I		Power terminal (GND)
72	TX	—	Open	Not in use
73	NC	—	Open	Not in use
74	TEX	—	+5 V	Not in use
75	Vref	I	+5 V	Analog board reference voltage
76	Vfdp	I	–25 V	FL display tube driving voltage
77-80	a_-d_SEG	O	FL tube	FL Segment 'a'-'d'

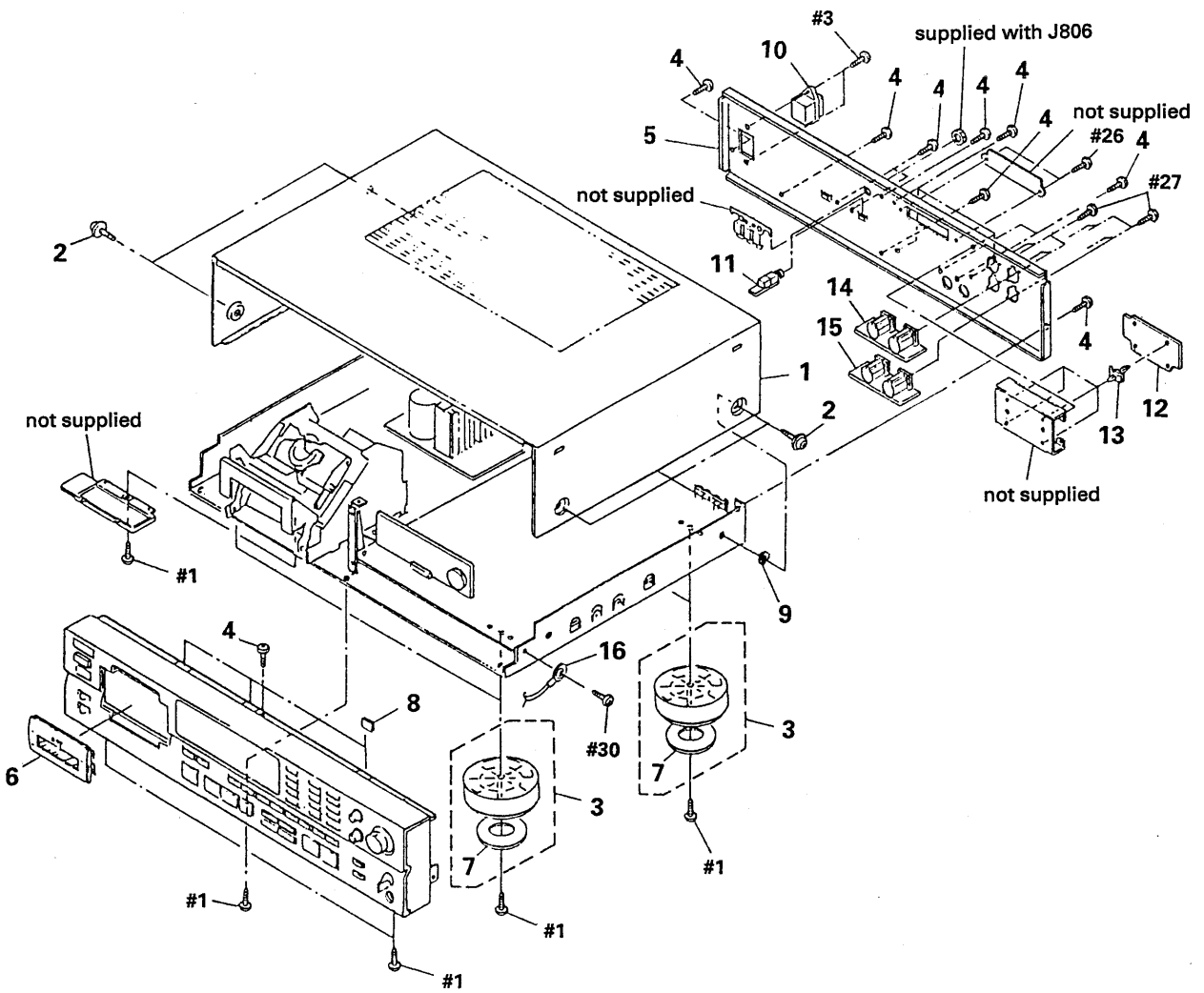
SECTION 5
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB,BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware(# mark) list is given in the last of this parts list.
- CND : Canadian

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

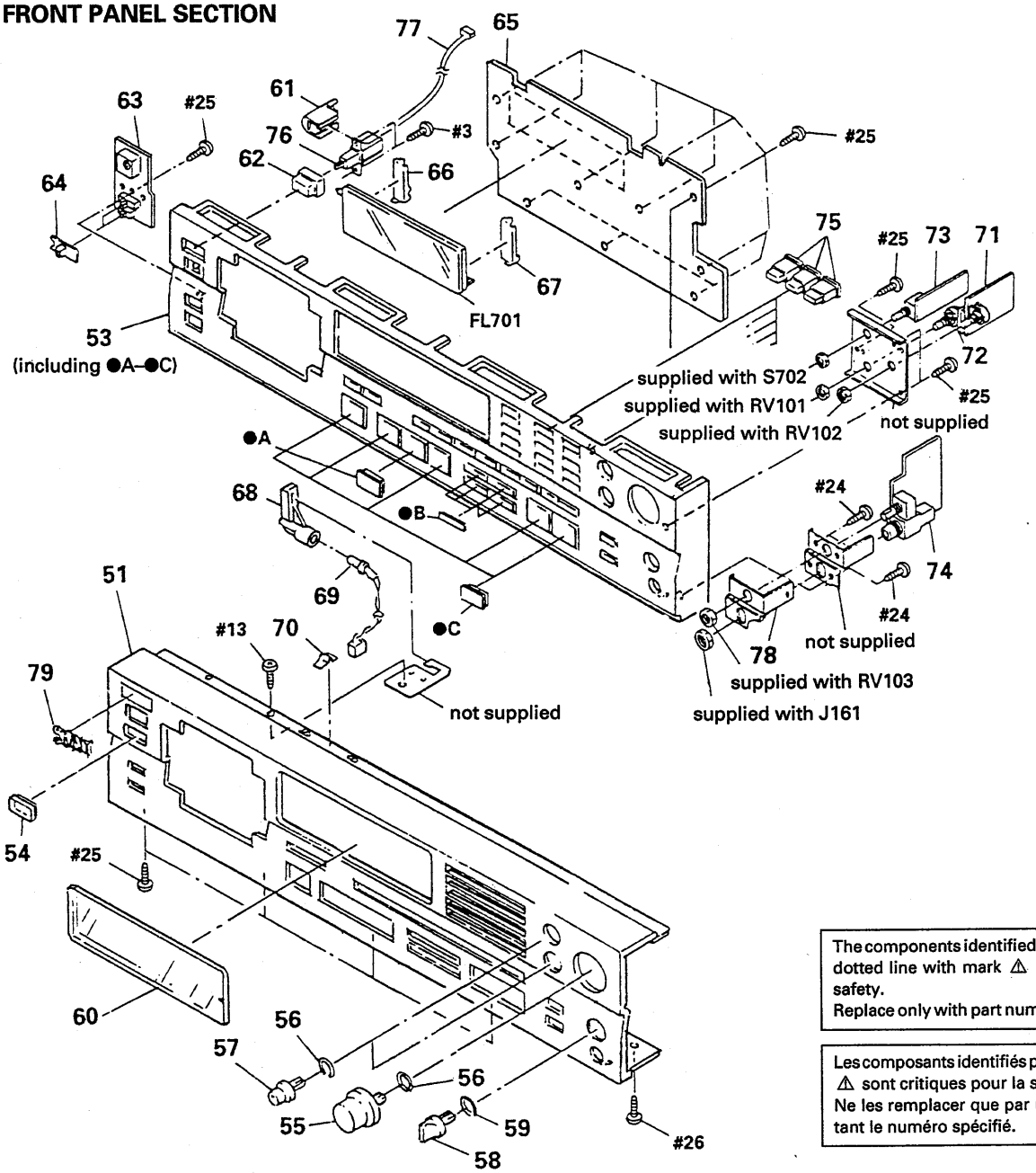
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5-1. CABINET SECTION



Ref. No.		Part No.	Description	Remarks
1	*	3-350-407-81	CASE	
2		3-704-366-01	SCREW (CASE) (M3X8)	
3		X-4885-950-1	FOOT ASSY	
4		3-703-685-21	SCREW (+BV 3X8)	
5	*	3-372-237-01	PANEL, BACK (US, CND)	
5	*	3-372-237-11	PANEL, BACK (AEP, UK)	
6		A-2003-954-A	PANEL (CASSETTE) ASSY	
7		4-923-836-11	CUSHION	
8		3-831-441-XX	CUSHION, SPEAKER	
9		3-942-525-01	BLIND (1), KNOB	
10	⚠ *	1-580-375-21	INLET 3P	
11	*	1-640-289-11	REMOTE BOARD	
12	*	A-2006-673-A	BAL CONV BOARD, COMPLETE	
13	*	3-703-353-01	SUPPORT, PC BOARD	
14	*	1-640-286-11	BAL-IN BOARD	
15	*	1-640-287-11	BAL-OUT BOARD	
16	*	1-555-724-00	WIRE, GROUND	

5-2. FRONT PANEL SECTION



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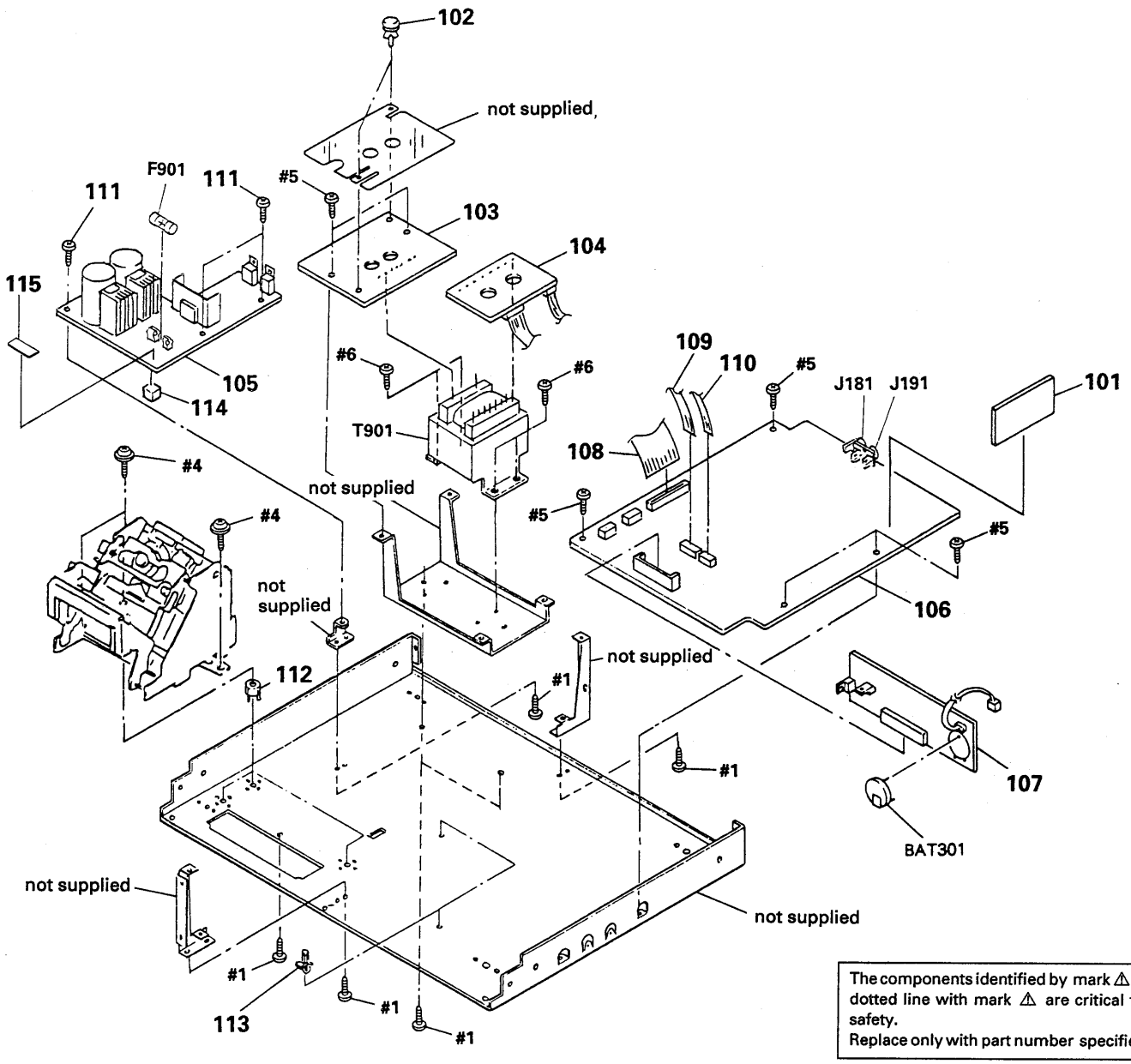
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
51	3-368-713-42	PANEL (FRONT)	
53	X-3363-610-1	ESCUTCHEON (PANEL) ASSY	
54	3-364-919-01	FILTER	
55	3-368-707-01	KNOB (REC LEVEL)	
56	3-356-957-01	SPRING	
57	3-364-173-11	KNOB (BAL)	
58	3-354-931-01	KNOB (DIA. 10)	
59	3-354-981-01	SPRING (SUS), RING	
60	3-368-698-01	WINDOW (FL TUBE)	
61	3-575-524-00	COVER, POWER SWITCH	
62	4-917-460-01	KNOB, POWER	
63	* 1-639-329-11	TIMER SW BOARD	
64	4-931-421-11	KNOB (T & S)	
65	* A-2006-646-A	CONTROL SW BOARD, COMPLETE	
66	* 4-922-524-01	HOLDER (LEFT)	
67	* 4-922-523-01	HOLDER (RIGHT)	
68	* 4-925-758-11	COVER (L), LAMP	
69	1-518-634-11	LAMP, PILOT	
70	3-846-312-00	SPACER	
71	* 1-639-325-11	REC VOL BOARD	
72	* 1-639-326-11	BALANCE VOL BOARD	
73	* 1-639-328-11	INPUT SW BOARD	
74	* 1-639-327-11	HEADPHONE BOARD	
75	3-364-927-01	BUTTON (10 KEY)	
76	⚠ 1-554-920-21	SWITCH, PUSH (AC POWER) (1 KEY)	
77	1-590-321-71	LEAD (WITH CONNECTOR)	
78	* 3-372-627-02	PLATE (HP), GROUND	
79	4-908-848-31	EMBLEM, SONY	
FL701	1-519-672-11	INDICATOR TUBE, FLUORESCENT	

5-3. CHASSIS SECTION



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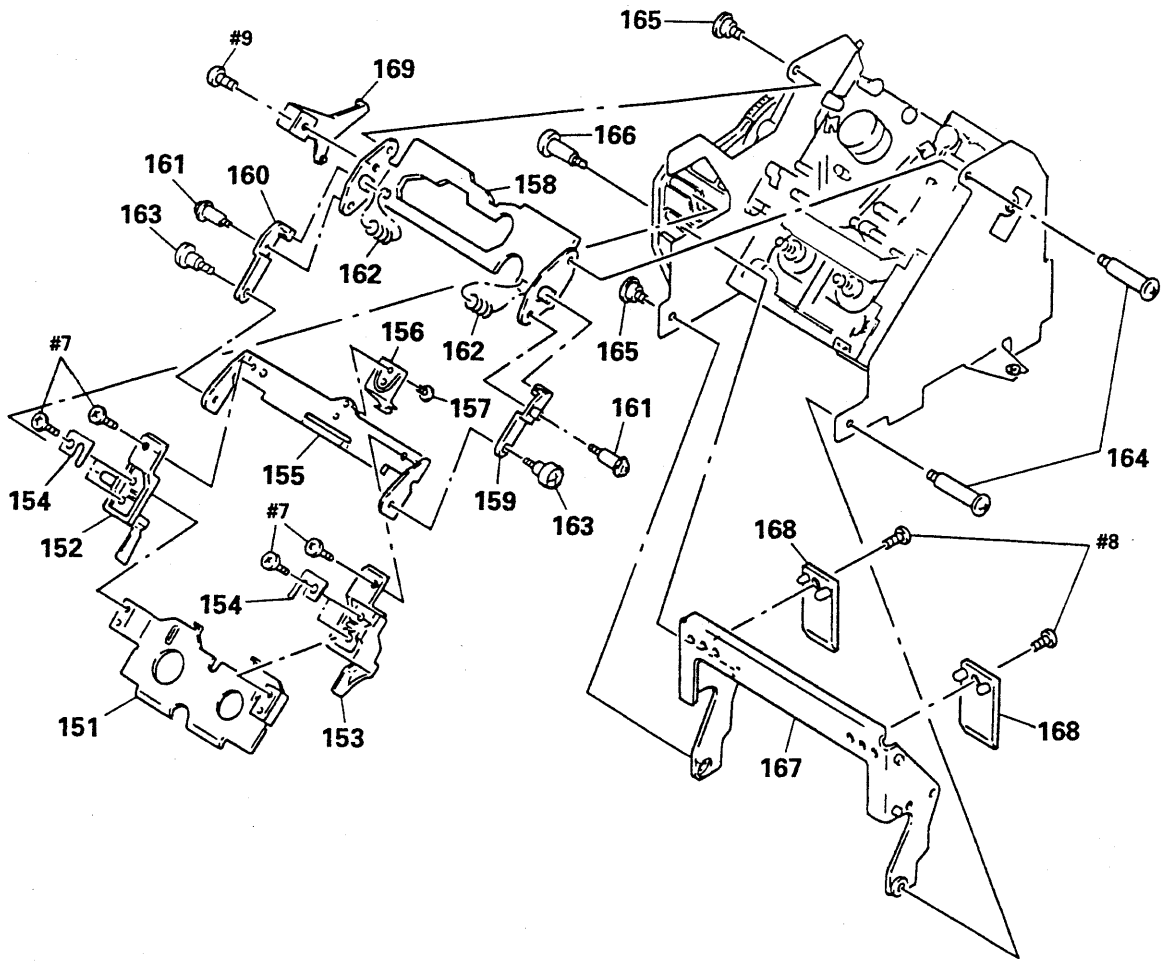
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

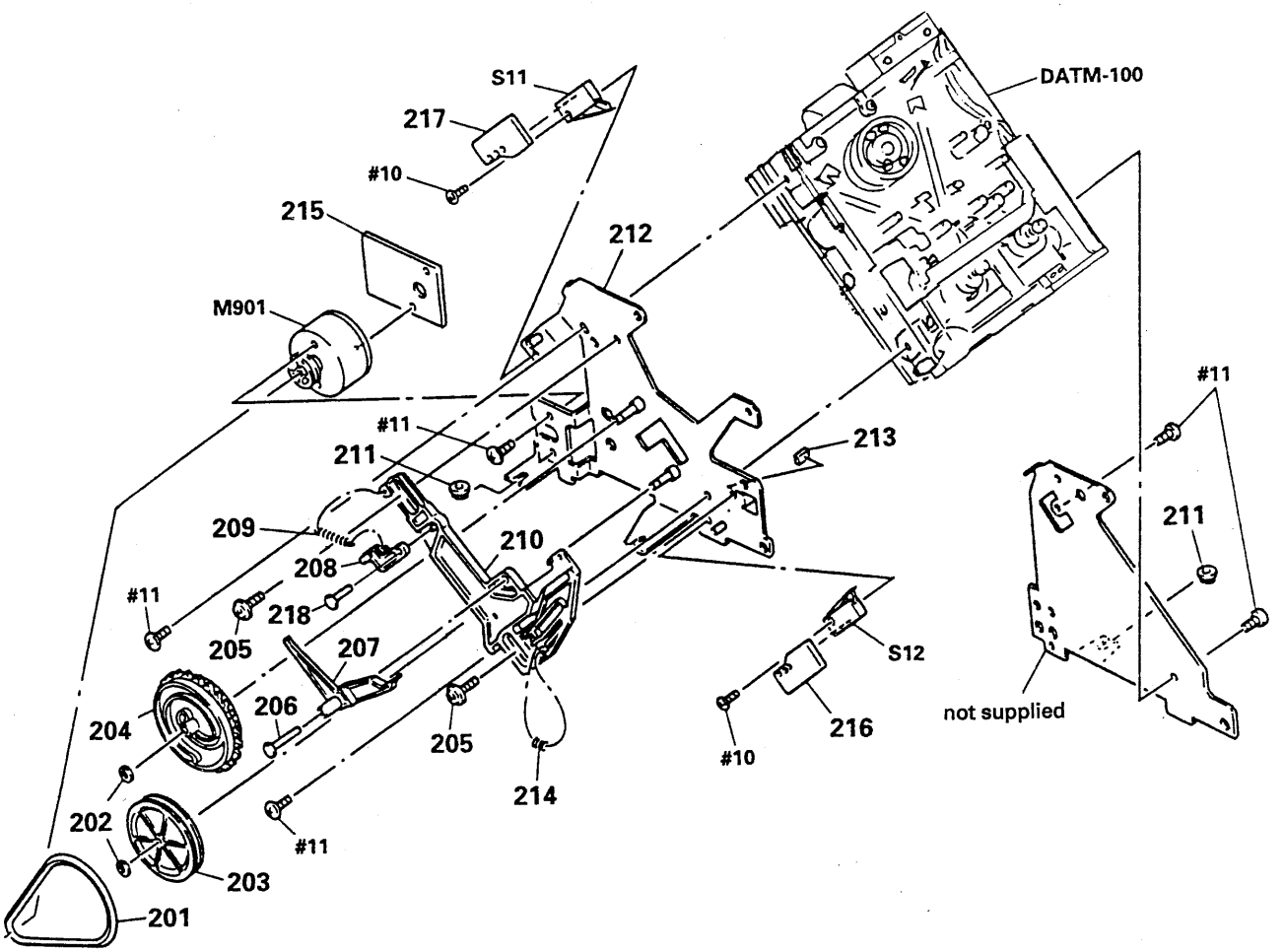
Ref. No.	Part No.	Description	Remarks
101	* 1-639-920-11	PLL BOARD	
102	4-812-134-00	RIVET NYLON, 3.5	
103	* 1-639-333-11	PRIMARY BOARD	
104	* 1-639-332-11	RELAY (POWER) BOARD	
105	* A-2006-647-A	POWER BOARD, COMPLETE	
106	* A-2006-648-A	MAIN BOARD, COMPLETE	
107	* A-2006-553-A	SUB BOARD, COMPLETE	
108	1-590-915-11	WIRE, FLAT TYPE (30 CORE)	
109	1-590-916-11	WIRE, FLAT TYPE (10 CORE)	
110	1-590-914-11	WIRE, FLAT TYPE (6 CORE)	
111	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
112	3-368-709-01	HOLDER (MD)	
113	* 3-670-570-00	SPACER, SUPPORT	
114	* 3-685-232-01	SPACER, VI	
115	3-701-947-15	LABEL (T2.5A), FUSE (AEP, UK)	
BAT301	⚠ 1-528-229-11	BATTERY, LITHIUM CR-2450	
F901	⚠ 1-532-286-00	FUSE, TIME-LAG (T2.5A) (AEP, UK)	
F901	⚠ 1-532-744-11	FUSE, GLASS TUBE (2.5A) (US, CND)	
T901	⚠ 1-450-556-11	TRANSFORMER, POWER (US, CND)	
T901	⚠ 1-450-557-11	TRANSFORMER, POWER (AEP, UK)	

5-4. MECHANISM SECTION 1



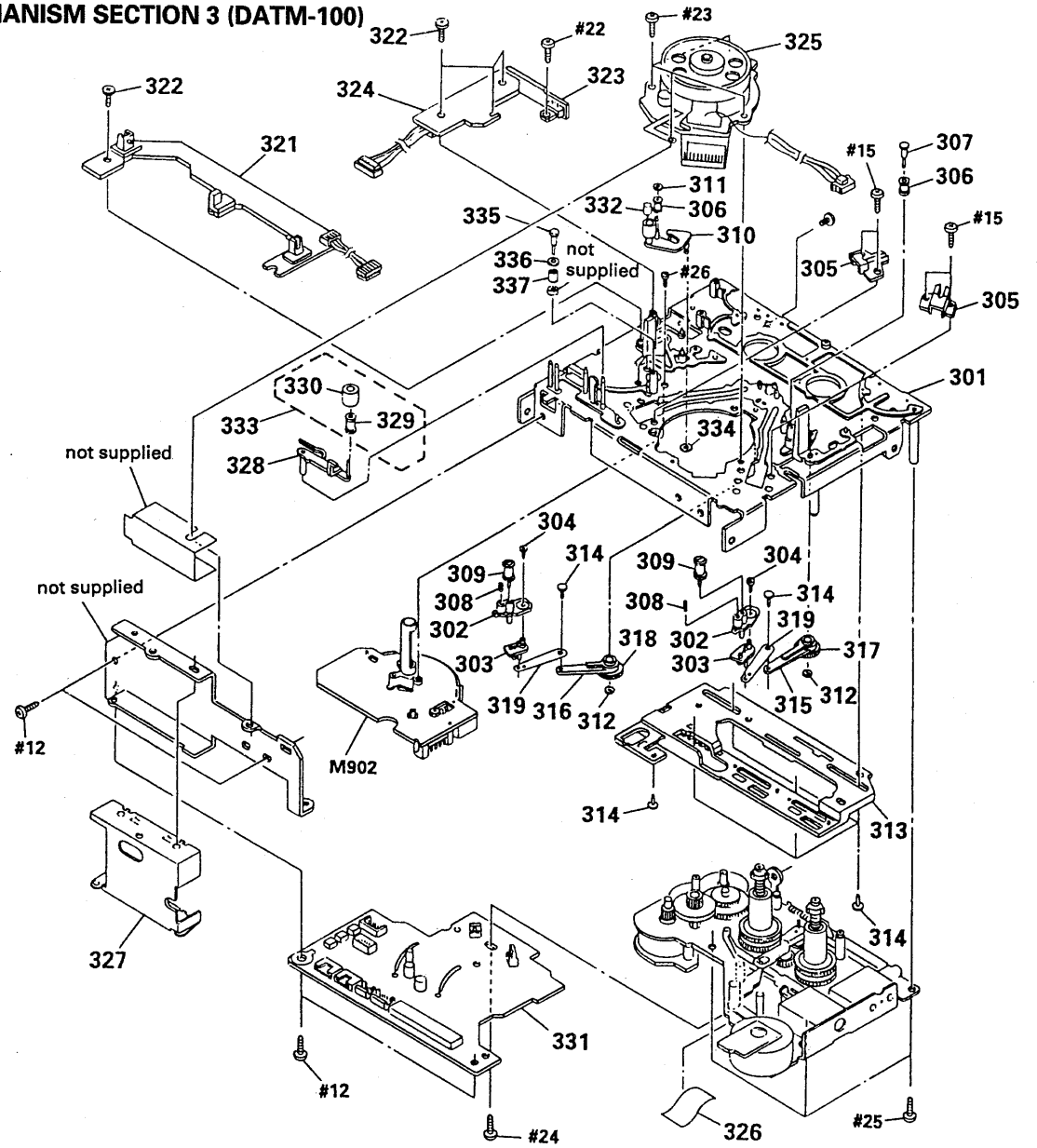
Ref. No.	Part No.	Description	Remarks
151	4-931-476-01	HOLDER (LOWER)	
152	4-931-484-01	HOLDER (C-LEFT)	
153	4-931-486-01	HOLDER (C-RIGHT)	
154	3-366-308-01	SPRING (SIDE), PLATE	
155	* 4-931-485-01	HOLDER (C-INNER)	
156	4-931-461-01	SPRING (CENTER), LEAF	
157	3-352-517-01	SCREW (M2X2.5)	
158	* 3-369-235-01	PLATE, FULCRUM	
159	4-931-481-01	ARM (LIMITER L)	
160	4-931-473-01	ARM (LIMITER R)	
161	4-918-991-01	SCREW, STEP	
162	3-537-214-00	SPRING, COMPRESSION	
163	3-312-161-00	SCREW, STEP, PRECISION	
164	4-931-463-01	SCREW (STEP)	
165	2-236-956-00	SCREW, STEP	
166	4-931-471-01	SCREW (STEP)	
167	4-931-474-01	HOLDER (WINDOW)	
168	4-931-469-01	PLATE, ORNAMENTAL	
169	* X-4919-020-1	JOINT ASSY	

5-5. MECHANISM SECTION 2



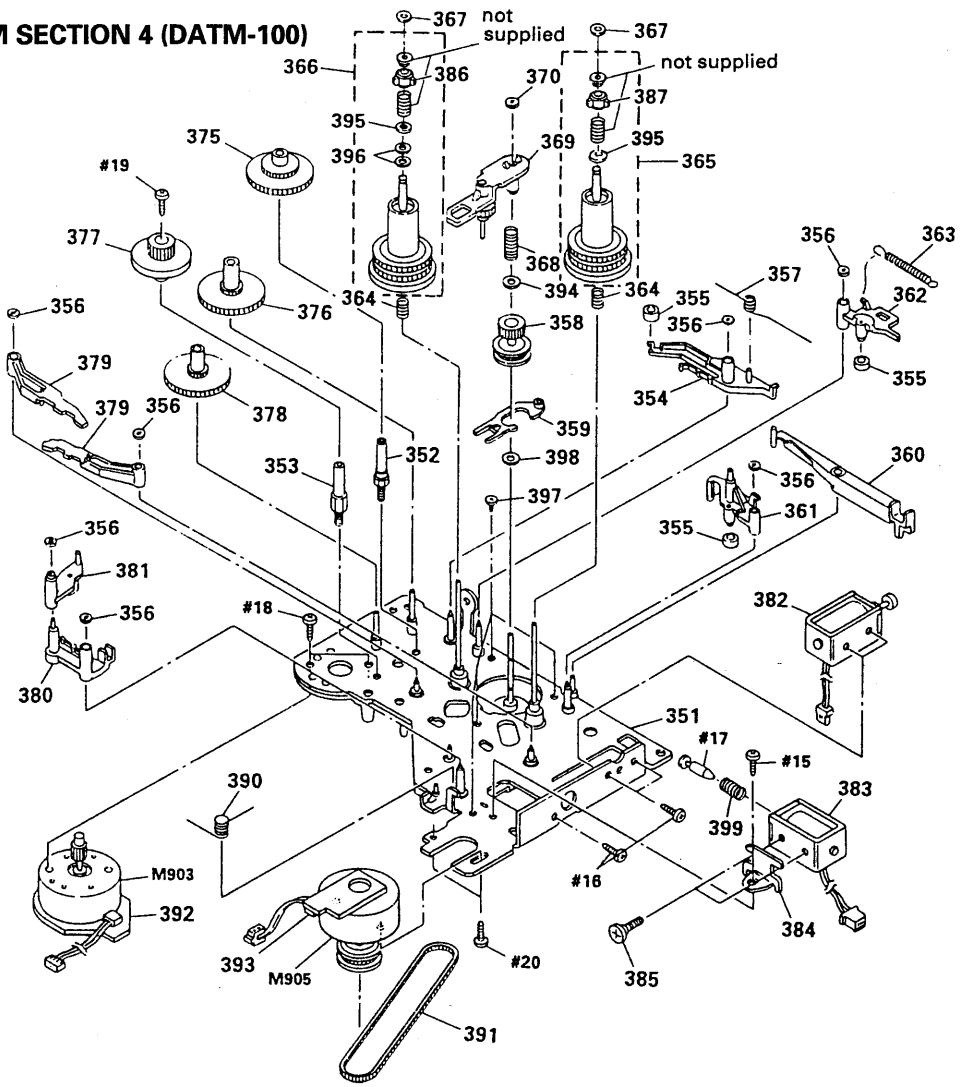
Ref. No.	Part No.	Description	Remarks
201	4-931-470-01	BELT (DRIVING)	
202	3-307-948-21	WASHER, NYLON	
203	4-931-459-01	PULLEY	
204	4-931-477-01	GEAR (CAM)	
205	4-932-336-01	SCREW (STEP)	
206	4-931-468-01	SHAFT (PRESS FITTING)	
207	4-931-490-01	LEVER (LINK)	
208	4-931-460-01	ARM (SLIDER)	
209	3-549-810-00	SPRING, TENSION	
210	4-931-492-01	SLIDER (CAM)	
212	* X-4919-023-1	PLATE ASSY, SIDE	
213	9-911-863-XX	SPACER	
214	3-537-215-00	SPRING, COMPRESSION	
215	* 1-639-646-11	MOTOR BOARD	
216	* 1-639-647-11	SW (IN) BOARD	
217	* 1-639-648-11	SW (OUT) BOARD	
218	4-936-626-01	SHAFT (ARM PRESS FITTING)	
M901	A-2003-448-A	MOTOR ASSY (CASSETTE COMPARTMENT)	
S11	1-570-975-11	SWITCH, SLIDE (CASSETTE TABLE OUT)	
S12	1-572-247-11	SWITCH, SLIDE (CASSETTE TABLE IN)	

5-6. MECHANISM SECTION 3 (DATM-100)



Ref. No.	Part No.	Description	Remarks
301	* 3-368-462-01	CHSSIS (OUTSERT), MECHANIAL	
302	* 3-368-390-01	BASE (#1 GUIDE)	
303	3-368-409-01	JOINT (#1 GUIDE)	
304	3-368-413-01	SCREW, +P (1) B1.4X2.5	
305	* 3-368-442-01	CATCHER	
306	3-368-399-01	GUIDE, ROLLER	
307	3-368-428-01	SHAFT (ROLLER GUIDE)	
308	3-368-436-01	SPRING (#1 GUIDE), COMPRESSION	
309	X-3337-643-1	GUIDE (RIC) ASSY, ROLLER	
310	X-3363-025-1	PINCH (LEVER) ASSY	
311	3-315-384-31	WASHER, STOPPER	
312	3-368-398-01	BUSHING	
313	* A-2003-708-A	SLIDER ASSY, CAM	
314	3-372-761-01	SCREW (M1.7X4), TAPPING	
315	3-368-427-01	LEVER (LOAD-T)	
316	3-368-426-01	LEVER (LOAD-S)	
317	3-368-444-01	GEAR (LOAD-T)	
318	3-368-443-01	GEAR (LOAD-S)	
319	3-368-415-01	SHAFT (LOAD LEVER JOINT)	
321	* 1-639-305-11	TOP END SENSOR BOARD	
323	* 1-639-301-11	RGN SW BOARD	
324	* 1-639-306-11	CAM SLIDER BOARD	
325	8-848-567-11	DRUM ASSY DOU-03A	
326	9-911-835-XX	SPACER	
327	* A-2001-587-A	RF COMPLETE ASSY	
328	3-368-459-01	LEVER (CLEANER)	
329	3-353-812-01	COLLAR (ROLLER)	
330	3-352-518-01	ROLLER (CLEANER)	
331	* A-2056-488-A	DRUM DRIVE BOARD, COMPLETE	
332	3-337-626-01	CAP, PINCH ROLLER	
333	X-3337-655-1	ROLLER (CLEANER) ASSY	
334	3-321-813-01	WASHER	
335	3-375-209-01	SHAFT (FIXED GUIDE)	
336	3-337-677-01	FLANGE	
337	3-337-676-01	GUIDE, FIXED	
M902	8-835-361-01	MOTOR, DC U-17B (CAPSTAN)	

5-7. MECHANISM SECTION 4 (DATM-100)



Ref. No.	Part No.	Description	Remarks
351	* A-2003-857-A	CHASSIS (REEL) ASSY	
352	* 3-368-420-01	SHAFT (CAM DRIVE GEAR C)	
353	* 3-368-419-01	SHAFT (CAM DRIVE GEAR D)	
354	* 3-368-455-01	LEVER (GEAR LOCK)	
355	3-368-418-01	TUBE (BREAK)	
356	3-368-398-01	BUSHING	
357	3-368-430-01	SPRING (GEAR LOCK)	
358	X-3363-022-1	GEAR (REEL DRIVE) ASSY	
359	* 3-368-411-01	SLIDER (REEL LOCK)	
360	* 3-368-453-01	LEVER (BRAKE SOLENOID)	
361	* 3-368-447-01	LEVER (BRAKE S)	
362	* 3-368-446-01	LEVER (BRAKE T)	
363	3-368-438-01	SPRING (BREAK), TENSION	
364	3-368-432-01	SPRING (FF/REW), COMPRESSION	
365	A-2003-709-A	TABLE (S) ASSY, REEL	
366	A-2003-710-A	TABLE (T) ASSY, REEL	
367	3-578-224-00	WASHER	
368	3-368-435-01	SPRING (FR LEVER), COMPRESSION	
369	X-3364-581-1	LEVER (F/R) ASSY	
370	3-315-384-31	WASHER, STOPPER	
375	3-368-421-01	GEAR (CAM DRIVE C)	
376	3-373-039-01	GEAR (CAM DRIVE B)	
377	3-368-403-01	GEAR (CAM DRIVE D)	
378	3-368-402-01	GEAR (CAM DRIVE A, B)	
379	X-3363-024-1	LEVER (BT) ASSY	
380	* 3-368-451-01	LEVER (BT SOLENOID)	
381	* 3-368-454-01	LEVER (BT SELECTION)	
382	1-454-535-11	SOLENOID, PLUNGER (BRAKE)	
383	1-454-536-11	SOLENOID, PLUNGER (BT CONTROL)	
384	* 3-368-416-01	BRACKET (B.T SOLENOID)	
385	3-368-423-01	SCREW (M2.6), STEP	
386	2-623-736-01	CLAW (C) (LEFT), REEL	
387	2-623-752-01	CLAW (C) (RIGHT), REEL	
390	3-368-431-01	SPRING (B.T SOLENOID)	
391	3-368-417-01	BELT (170TN10-1.0T), TIMING	
392	* 1-639-303-11	CAM MOTOR BOARD	
393	* 1-639-304-11	REEL MOTOR BOARD	
394	3-738-212-21	RETAINER, THRUST, REEL TABLE	
395	3-701-443-11	WASHER, 5 DIA.	
396	3-701-443-21	WASHER, 5 DIA.	
397	2-623-756-01	SCREW, (B1.7X3), TAPPING	
398	3-701-436-01	WASHER, 1.6	
399	3-370-480-01	SPRING (BT), COMPRESSION	
M903	X-3363-109-1	MOTOR (CAM) ASSY	
M905	X-3363-110-1	MOTOR (REEL) ASSY	

SECTION 6
ELECTRICAL PARTS LIST

BAL CONV

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- CND : Canadian
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description			Remarks
	A-2006-673-A	BAL CONV BOARD, COMPLETE			
		**********			
		〈 CAPACITOR 〉			
C801	1-128-426-91	ELECT	47uF	20% 25V	
C802	1-162-199-31	CERAMIC	10PF	5% 50V	
C803	1-136-165-00	FILM	0.1uF	5% 50V	
C804	1-136-165-00	FILM	0.1uF	5% 50V	
C805	1-162-213-31	CERAMIC	39PF	5% 50V	
C806	1-162-213-31	CERAMIC	39PF	5% 50V	
C807	1-136-165-00	FILM	0.1uF	5% 50V	
C808	1-136-165-00	FILM	0.1uF	5% 50V	
C811	1-136-165-00	FILM	0.1uF	5% 50V	
C812	1-128-427-91	ELECT	100uF	20% 25V	
C851	1-128-426-91	ELECT	47uF	20% 25V	
C852	1-162-199-31	CERAMIC	10PF	5% 50V	
C853	1-136-165-00	FILM	0.1uF	5% 50V	
C854	1-136-165-00	FILM	0.1uF	5% 50V	
C855	1-162-213-31	CERAMIC	39PF	5% 50V	
C856	1-162-213-31	CERAMIC	39PF	5% 50V	
C857	1-136-165-00	FILM	0.1uF	5% 50V	
C858	1-136-165-00	FILM	0.1uF	5% 50V	
C861	1-136-165-00	FILM	0.1uF	5% 50V	
C862	1-128-427-91	ELECT	100uF	20% 25V	
		〈 CONNECTOR 〉			
CN803	* 1-564-507-11	PLUG, CONNECTOR 4P			
CN804	* 1-564-507-11	PLUG, CONNECTOR 4P			
		〈 DIODE 〉			
D801	8-719-912-20	DIODE	1SS120		
D802	8-719-912-20	DIODE	1SS120		
D851	8-719-912-20	DIODE	1SS120		
D852	8-719-912-20	DIODE	1SS120		
		〈 IC 〉			
IC801	8-759-900-72	IC	NE5532P		
IC802	8-759-900-72	IC	NE5532P		
IC803	8-759-900-72	IC	NE5532P		
IC804	8-759-711-18	IC	NJM4556D-D		
IC805	8-759-900-72	IC	NE5532P		
IC806	8-759-900-72	IC	NE5532P		
IC807	8-759-711-18	IC	NJM4556D-D		
		〈 RESISTOR 〉			
R801	1-215-453-00	METAL	22K	1% 1/6W	
R802	1-215-453-00	METAL	22K	1% 1/6W	
R803	1-215-439-00	METAL	5.6K	1% 1/6W	
R804	1-215-439-00	METAL	5.6K	1% 1/6W	
R805	1-215-421-00	METAL	1K	1% 1/6W	
R806	1-215-415-00	METAL	560	1% 1/6W	
R807	1-215-415-00	METAL	560	1% 1/6W	
R808	1-215-415-00	METAL	560	1% 1/6W	
R809	1-215-469-00	METAL	100K	1% 1/6W	
R810	1-215-421-00	METAL	1K	1% 1/6W	
R811	1-215-433-00	METAL	3.3K	1% 1/6W	
R812	1-215-445-00	METAL	10K	1% 1/6W	
R813	1-215-445-00	METAL	10K	1% 1/6W	
R814	1-215-437-00	METAL	4.7K	1% 1/6W	
R815	1-215-447-00	METAL	12K	1% 1/6W	
R816	1-215-437-00	METAL	4.7K	1% 1/6W	
R817	1-215-447-00	METAL	12K	1% 1/6W	
R818	1-215-447-00	METAL	12K	1% 1/6W	
R819	1-215-437-00	METAL	4.7K	1% 1/6W	
R820	1-215-401-11	METAL	150	1% 1/6W	
R821	1-215-447-00	METAL	12K	1% 1/6W	
R822	1-215-437-00	METAL	4.7K	1% 1/6W	
R823	1-215-401-11	METAL	150	1% 1/6W	
R851	1-215-453-00	METAL	22K	1% 1/6W	
R852	1-215-453-00	METAL	22K	1% 1/6W	
R853	1-215-439-00	METAL	5.6K	1% 1/6W	
R854	1-215-439-00	METAL	5.6K	1% 1/6W	
R855	1-215-421-00	METAL	1K	1% 1/6W	
R856	1-215-415-00	METAL	560	1% 1/6W	
R857	1-215-415-00	METAL	560	1% 1/6W	
R858	1-215-415-00	METAL	560	1% 1/6W	
R859	1-215-469-00	METAL	100K	1% 1/6W	
R860	1-215-421-00	METAL	1K	1% 1/6W	
R861	1-215-433-00	METAL	3.3K	1% 1/6W	
R862	1-215-445-00	METAL	10K	1% 1/6W	

BAL CONV | BAL-IN | BAL-OUT | BALANCE VOL | CAM MOTOR | CAM SLIDER

Ref. No.	Part No.	Description				Remarks
R863	1-215-445-00	METAL	10K	1%	1/6W	
R864	1-215-437-00	METAL	4.7K	1%	1/6W	
R865	1-215-447-00	METAL	12K	1%	1/6W	
R866	1-215-437-00	METAL	4.7K	1%	1/6W	
R867	1-215-447-00	METAL	12K	1%	1/6W	
R868	1-215-447-00	METAL	12K	1%	1/6W	
R869	1-215-437-00	METAL	4.7K	1%	1/6W	
R870	1-215-401-11	METAL	150	1%	1/6W	
R871	1-215-447-00	METAL	12K	1%	1/6W	
R872	1-215-437-00	METAL	4.7K	1%	1/6W	
R873	1-215-401-11	METAL	150	1%	1/6W	
		〈 VARIABLE RESISTOR 〉				
RV801	1-230-523-11	RES, ADJ, METAL10K				
RV802	1-230-523-11	RES, ADJ, METAL10K				
RV803	1-230-523-11	RES, ADJ, METAL10K				
RV804	1-230-523-11	RES, ADJ, METAL10K				
**********						
*	1-640-286-11	BAL-IN BOARD				
		**********				
		〈 CAPACITOR 〉				
C820	1-162-294-31	CERAMIC	1000pF	10%	50V	
C821	1-162-294-31	CERAMIC	1000pF	10%	50V	
C870	1-162-294-31	CERAMIC	1000pF	10%	50V	
C871	1-162-294-31	CERAMIC	1000pF	10%	50V	
		〈 CONNECTOR 〉				
CN806	* 1-564-509-11	PLUG, CONNECTOR 6P				
		〈 JACK 〉				
J801	1-568-006-11	CONNECTOR, XLR TYPE 3P(ANALOG INPUT CH1)				
J802	1-568-006-11	CONNECTOR, XLR TYPE 3P(ANALOG INPUT CH2)				
**********						
*	1-640-287-11	BAL-OUT BOARD, COMPLETE				
		**********				
		〈 CAPACITOR 〉				
C809	1-126-024-11	ELECT	220uF	20%	25V	
C810	1-126-024-11	ELECT	220uF	20%	25V	
C822	1-162-294-31	CERAMIC	1000pF	10%	50V	
C823	1-162-294-31	CERAMIC	1000pF	10%	50V	
C859	1-126-024-11	ELECT	220uF	20%	25V	
C860	1-126-024-11	ELECT	220uF	20%	25V	
C872	1-162-294-31	CERAMIC	1000pF	10%	50V	
C873	1-162-294-31	CERAMIC	1000pF	10%	50V	
		〈 CONNECTOR 〉				
CN807	* 1-564-521-11	PLUG, CONNECTOR 6P				
		〈 FERRITE BEAD 〉				
FB801	1-543-900-11	FERRITE BEAD				
FB802	1-543-900-11	FERRITE BEAD				
FB803	1-543-900-11	FERRITE BEAD				
FB851	1-543-900-11	FERRITE BEAD				
FB852	1-543-900-11	FERRITE BEAD				
FB853	1-543-900-11	FERRITE BEAD				
		〈 JACK 〉				
J803	1-568-005-11	CONNECTOR, XLR TYPE 3P(ANALOG OUTPUT CH1)				
J804	1-568-005-11	CONNECTOR, XLR TYPE 3P(ANALOG OUTPUT CH2)				
		〈 RESISTOR 〉				
R824	1-215-469-00	METAL	100K	1%	1/6W	
R825	1-215-469-00	METAL	100K	1%	1/6W	
R874	1-215-469-00	METAL	100K	1%	1/6W	
R875	1-215-469-00	METAL	100K	1%	1/6W	
**********						
*	1-639-326-11	BALANCE VOL BOARD				
		**********				
		〈 CONNECTOR 〉				
CN102	* 1-564-507-11	PLUG, CONNECTOR 4P				
		〈 RESISTOR 〉				
R101	1-259-462-11	CARBON	27K	5%	1/6W	
R201	1-259-462-11	CARBON	27K	5%	1/6W	
		〈 VARIABLE RESISTOR 〉				
RV101	1-238-687-11	RES, VAR, CARBON 50K/50K (BALANCE)				
**********						
*	1-639-303-11	CAM MOTOR BOARD				
		**********				
		〈 CAPACITOR 〉				
C06	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V	
		〈 MOTOR 〉				
M903	X-3363-109-1	MOTOR (CAM) ASSY				
**********						
*	1-639-306-11	CAM SLIDER BOARD				
		**********				
		〈 JUMPER 〉				
JW04	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW05	1-216-296-00	METAL CHIP	0	5%	1/8W	

When indicating parts by reference number, please include the board name.

CAM SLIDER | CONTROL SW

Ref. No.	Part No.	Description			Remarks
		〈 SWITCH 〉			
SW1	1-570-953-11	SWITCH, PUSH (1 KEY) (STOP DET)			
SW2	1-570-953-11	SWITCH, PUSH (1 KEY) (FWD DET)			
**********					
*	A-2006-646-A	CONTROL SW BOARD, COMPLETE			
		**********			
*	4-922-523-01	HOLDER (RIGHT)			
*	4-922-524-01	HOLDER (LEFT)			
	9-911-839-XX	CUSHION			
		〈 CAPACITOR 〉			
C701	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C702	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C703	1-124-584-00	ELECT	100uF	20% 10V	
C704	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C705	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C706	1-161-379-00	CERAMIC	0.01uF	20% 25V	
		〈 CONNECTOR 〉			
CN751	1-568-853-11	SOCKET, CONNECTOR 10P			
CN752	1-568-849-11	SOCKET, CONNECTOR 6P			
		〈 CIRCUIT BLOCK 〉			
CP701	1-233-140-11	COMPOSITION CIRCUIT BLOCK	100k x 8		
CP702	1-233-140-11	COMPOSITION CIRCUIT BLOCK	100k x 8		
CP703	1-233-140-11	COMPOSITION CIRCUIT BLOCK	100k x 8		
CP704	1-233-140-11	COMPOSITION CIRCUIT BLOCK	100k x 8		
		〈 DIODE 〉			
D701	8-719-107-94	DIODE 1SS202-1			
D702	8-719-107-94	DIODE 1SS202-1			
		〈 FILTER 〉			
FL701	1-519-672-11	INDICATOR TUBE, FLUORESCENT			
		〈 IC 〉			
IC701	8-752-832-73	IC CXP5058H-658Q			
IC702	8-759-995-09	IC MSM6338RS			
IC703	8-752-330-59	IC CXK1011P			
IC705	8-759-140-11	IC uPD4011BC			
		〈 TRANSISTOR 〉			
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q704	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q706	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q707	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q709	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q710	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		〈 RESISTOR 〉			
R701	1-249-441-11	CARBON	100K	5% 1/4W	
R702	1-249-441-11	CARBON	100K	5% 1/4W	
R703	1-249-441-11	CARBON	100K	5% 1/4W	
R704	1-249-441-11	CARBON	100K	5% 1/4W	
R705	1-249-441-11	CARBON	100K	5% 1/4W	
R706	1-249-441-11	CARBON	100K	5% 1/4W	
R707	1-249-441-11	CARBON	100K	5% 1/4W	
R708	1-249-441-11	CARBON	100K	5% 1/4W	
R709	1-249-441-11	CARBON	100K	5% 1/4W	
R710	1-249-441-11	CARBON	100K	5% 1/4W	
R715	1-249-429-11	CARBON	10K	5% 1/4W	
R716	1-249-422-11	CARBON	2.7K	5% 1/4W	
R717	1-249-424-11	CARBON	3.9K	5% 1/4W	
R718	1-249-428-11	CARBON	8.2K	5% 1/4W	
R719	1-249-434-11	CARBON	27K	5% 1/4W	
R720	1-249-429-11	CARBON	10K	5% 1/4W	
R721	1-249-422-11	CARBON	2.7K	5% 1/4W	
R722	1-249-424-11	CARBON	3.9K	5% 1/4W	
R723	1-249-428-11	CARBON	8.2K	5% 1/4W	
R724	1-249-434-11	CARBON	27K	5% 1/4W	
R725	1-249-429-11	CARBON	10K	5% 1/4W	
R726	1-249-422-11	CARBON	2.7K	5% 1/4W	
R727	1-249-424-11	CARBON	3.9K	5% 1/4W	
R728	1-249-428-11	CARBON	8.2K	5% 1/4W	
R729	1-249-434-11	CARBON	27K	5% 1/4W	
R730	1-249-429-11	CARBON	10K	5% 1/4W	
R731	1-249-422-11	CARBON	2.7K	5% 1/4W	
R732	1-249-424-11	CARBON	3.9K	5% 1/4W	
R733	1-249-429-11	CARBON	10K	5% 1/4W	
R734	1-249-422-11	CARBON	2.7K	5% 1/4W	
R735	1-249-424-11	CARBON	3.9K	5% 1/4W	
R736	1-249-429-11	CARBON	10K	5% 1/4W	
R737	1-249-422-11	CARBON	2.7K	5% 1/4W	
R738	1-249-424-11	CARBON	3.9K	5% 1/4W	
R739	1-249-428-11	CARBON	8.2K	5% 1/4W	
R740	1-249-434-11	CARBON	27K	5% 1/4W	
R741	1-249-429-11	CARBON	10K	5% 1/4W	
R742	1-249-422-11	CARBON	2.7K	5% 1/4W	
R743	1-249-424-11	CARBON	3.9K	5% 1/4W	
R744	1-249-428-11	CARBON	8.2K	5% 1/4W	
R745	1-249-434-11	CARBON	27K	5% 1/4W	
R746	1-249-429-11	CARBON	10K	5% 1/4W	
R747	1-249-422-11	CARBON	2.7K	5% 1/4W	
R748	1-249-424-11	CARBON	3.9K	5% 1/4W	
R749	1-249-428-11	CARBON	8.2K	5% 1/4W	
R750	1-249-434-11	CARBON	27K	5% 1/4W	
R751	1-249-437-11	CARBON	47K	5% 1/4W	
R752	1-249-437-11	CARBON	47K	5% 1/4W	

When indicating parts by reference number, please include the board name.

CONTROL SW

Ref. No.	Part No.	Description				Remarks
R753	1-249-437-11	CARBON	47K	5%	1/4W	
R754	1-249-437-11	CARBON	47K	5%	1/4W	
R755	1-249-437-11	CARBON	47K	5%	1/4W	
R756	1-249-437-11	CARBON	47K	5%	1/4W	
R757	1-249-437-11	CARBON	47K	5%	1/4W	
R758	1-249-437-11	CARBON	47K	5%	1/4W	
R759	1-249-437-11	CARBON	47K	5%	1/4W	
R760	1-249-437-11	CARBON	47K	5%	1/4W	
R761	1-249-437-11	CARBON	47K	5%	1/4W	
R762	1-249-437-11	CARBON	47K	5%	1/4W	
R763	1-249-437-11	CARBON	47K	5%	1/4W	
R765	1-249-437-11	CARBON	47K	5%	1/4W	
R770	1-249-417-11	CARBON	1K	5%	1/4W	
		〈 SWITCH 〉				
S704	1-554-937-11	SWITCH, KEY BOARD (CLOCK SET)				
S705	1-554-937-11	SWITCH, KEY BOARD (SKIP ID WRITE)				
S706	1-554-937-11	SWITCH, KEY BOARD (SKIP ID ERASE)				
S707	1-554-937-11	SWITCH, KEY BOARD (7)				
S708	1-554-937-11	SWITCH, KEY BOARD (8)				
S709	1-554-937-11	SWITCH, KEY BOARD (9)				
S710	1-554-937-11	SWITCH, KEY BOARD (START ID WRITE)				
S711	1-554-937-11	SWITCH, KEY BOARD (START ID ERASE)				
S712	1-554-937-11	SWITCH, KEY BOARD (4)				
S713	1-554-937-11	SWITCH, KEY BOARD (5)				
S714	1-554-937-11	SWITCH, KEY BOARD (6)				
S715	1-554-937-11	SWITCH, KEY BOARD (START ID AUTO)				
S716	1-554-937-11	SWITCH, KEY BOARD (START ID RENUMBER)				
S717	1-554-937-11	SWITCH, KEY BOARD (1)				
S718	1-554-937-11	SWITCH, KEY BOARD (2)				
S719	1-554-937-11	SWITCH, KEY BOARD (3)				
S720	1-554-937-11	SWITCH, KEY BOARD (RECORDED)				
S721	1-554-937-11	SWITCH, KEY BOARD (PRESENT)				
S722	1-554-937-11	SWITCH, KEY BOARD (FADER)				
S723	1-554-937-11	SWITCH, KEY BOARD (MARGIN RESET)				
S724	1-554-937-11	SWITCH, KEY BOARD (COUNTER RESET)				
S725	1-554-937-11	SWITCH, KEY BOARD (COUNTER MODE)				
S726	1-554-937-11	SWITCH, KEY BOARD (REW ⏮)				
S727	1-554-937-11	SWITCH, KEY BOARD (FF ⏭)				
S728	1-554-937-11	SWITCH, KEY BOARD (REC ○)				
S729	1-554-937-11	SWITCH, KEY BOARD (PAUSE ⏸)				
S730	1-554-937-11	SWITCH, KEY BOARD (REC MUTE ●)				
S731	1-554-937-11	SWITCH, KEY BOARD (O/C ⏏)				
S732	1-554-937-11	SWITCH, KEY BOARD (STOP □)				
S733	1-554-937-11	SWITCH, KEY BOARD (PLAY ▷)				
S734	1-554-937-11	SWITCH, KEY BOARD (PREV ⏮)				
S735	1-554-937-11	SWITCH, KEY BOARD (NEXT ⏭)				
S736	1-554-937-11	SWITCH, KEY BOARD (END ID WRITE)				
S737	1-554-937-11	SWITCH, KEY BOARD (END ID ERASE)				
S738	1-554-937-11	SWITCH, KEY BOARD (CLEAR)				
S739	1-554-937-11	SWITCH, KEY BOARD (0 -)				
S740	1-554-937-11	SWITCH, KEY BOARD (MUSIC SCAN +)				

DRUM DRIVE

Ref. No.	Part No.	Description				Remarks
		〈 CRYSTAL 〉				
X701	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)				
**********						
*	A-2056-488-A	DRUM DRIVE BOARD, COMPLETE				
		**********				
*	3-343-491-01	HOLDER (S SENSOR B)				
	4-870-539-00	PLATE, GROUND				
		〈 CAPACITOR 〉				
C01	1-124-584-00	ELECT	100uF	20%	10V	
C02	1-126-157-11	ELECT	10uF	20%	16V	
C03	1-124-257-00	ELECT	2.2uF	20%	50V	
C04	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
C05	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
C08	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	
C21	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	
C31	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	
		〈 CONNECTOR 〉				
CN01	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P				
CN02	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P				
CN03	* 1-564-338-00	PIN, CONNECTOR 4P				
CN04	* 1-564-336-00	PIN, CONNECTOR 2P				
CN05	* 1-564-336-61	PIN, CONNECTOR 2P				
CN06	* 1-564-339-00	PIN, CONNECTOR 5P				
CN07	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P				
CN08	* 1-568-872-11	SOCKET, CONNECTOR 30P				
CN09	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P				
CN10	* 1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P				
		〈 IC 〉				
IC01	8-759-107-68	IC CX20115A				
IC02	8-759-502-80	IC LM358M				
IC03	8-759-502-80	IC LM358M				
		〈 JUMPER 〉				
JW06	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW07	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW08	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW09	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW10	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW11	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW12	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW13	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW14	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW15	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW16	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW17	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW18	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW19	1-216-296-00	METAL CHIP	0	5%	1/8W	

When indicating parts by reference number, please include the board name.

DRUM DRIVE | HEADPHONE | INPUT SW

Ref. No.	Part No.	Description				Remarks
JW20	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW21	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW22	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW23	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW24	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW25	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW26	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW27	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW28	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW29	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW30	1-216-296-00	METAL CHIP	0	5%	1/8W	
		〈 PHOTO INTERUPTER 〉				
PH01	8-719-939-23	DIODE	GP-2S09-C			
PH02	8-719-939-23	DIODE	GP-2S09-C			
		〈 TRANSISTOR 〉				
Q01	8-729-100-66	TRANSISTOR	2SC1623			
Q02	8-729-101-07	TRANSISTOR	2SB798-DL			
		〈 RESISTOR 〉				
R01	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R02	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R03	1-216-029-00	METAL CHIP	150	5%	1/10W	
R04	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R05	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R06	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R07	1-216-025-00	METAL CHIP	100	5%	1/10W	
R08	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R09	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R10	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R11	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R12	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R13	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R14	1-216-037-00	METAL CHIP	330	5%	1/10W	
R21	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R22	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R23	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R25	1-216-103-00	METAL CHIP	180K	5%	1/10W	
R26	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R31	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R32	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R35	1-216-103-00	METAL CHIP	180K	5%	1/10W	
R36	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	

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* 1-639-327-11 HEADPHONE BOARD
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〈 CAPACITOR 〉

C180	1-162-290-31	CERAMIC	470PF	10%	50V	
C181	1-126-059-11	ELECT	10uF	20%	63V	
C280	1-162-290-31	CERAMIC	470PF	10%	50V	
C281	1-126-059-11	ELECT	10uF	20%	63V	
C451	1-126-024-11	ELECT	220uF	20%	25V	
C452	1-126-024-11	ELECT	220uF	20%	25V	
		〈 CONNECTOR 〉				
CNP701 *	1-566-910-11	HOUSING, CONNECTOR 3P				
		〈 DIODE 〉				
D401	8-719-200-82	DIODE	11ES2			
D402	8-719-200-82	DIODE	11ES2			
		〈 IC 〉				
IC401	8-759-981-98	IC	RC4560D-D			
		〈 JACK 〉				
J161	1-565-327-11	JACK, LARGE TYPE 1P (HEADPHONE)				
		〈 RESISTOR 〉				
R128	1-259-468-11	CARBON	47K	5%	1/6W	
R129	1-259-444-11	CARBON	4.7K	5%	1/6W	
R130	1-259-468-11	CARBON	47K	5%	1/6W	
R131	1-259-412-11	CARBON	220	5%	1/6W	
R228	1-259-468-11	CARBON	47K	5%	1/6W	
R229	1-259-444-11	CARBON	4.7K	5%	1/6W	
R230	1-259-468-11	CARBON	47K	5%	1/6W	
R231	1-259-412-11	CARBON	220	5%	1/6W	
R460 ⚠	1-212-857-00	FUSIBLE	10	5%	1/4W	F
R461 ⚠	1-212-857-00	FUSIBLE	10	5%	1/4W	F
R799	1-249-437-11	CARBON	47K	5%	1/4W	
		〈 VARIABLE RESISTOR 〉				
RV103	1-241-537-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL)				

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* 1-639-328-11 INPUT SW BOARD
****

〈 CONNECTOR 〉

CN772 *	1-564-336-00	PIN, CONNECTOR 2P				
CNP702 *	1-566-910-11	HOUSING, CONNECTOR 3P				
		〈 RESISTOR 〉				
R713	1-249-428-11	CARBON	8.2K	5%	1/4W	
R714	1-249-434-11	CARBON	27K	5%	1/4W	
		〈 SWITCH 〉				
S702	1-572-758-11	SWITCH, ROTARY (INPUT)				

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description			Remarks
	A-2006-648-A	MAIN BOARD, COMPLETE			
		**********			
		〈 CAPACITOR 〉			
C102	1-126-233-11	ELECT	22uF	20%	50V
C103	1-130-955-00	FILM	0.01uF	5%	100V
C110	1-136-439-11	FILM	330PF	5%	630V
C111	1-136-439-11	FILM	330PF	5%	630V
C112	1-136-437-11	FILM	220PF	5%	630V
C113	1-136-437-11	FILM	220PF	5%	630V
C114	1-136-433-11	FILM	100PF	5%	630V
C115	1-136-433-11	FILM	100PF	5%	630V
C116	1-136-230-00	FILM	0.0022uF	5%	100V
C117	1-136-228-11	FILM	0.0012uF	5%	100V
C118	1-136-233-11	FILM	0.0047uF	5%	100V
C120	1-124-122-11	ELECT	100uF	20%	50V
C202	1-126-233-11	ELECT	22uF	20%	50V
C203	1-130-955-00	FILM	0.01uF	5%	100V
C210	1-136-439-11	FILM	330PF	5%	630V
C211	1-136-439-11	FILM	330PF	5%	630V
C212	1-136-437-11	FILM	220PF	5%	630V
C213	1-136-437-11	FILM	220PF	5%	630V
C214	1-136-433-11	FILM	100PF	5%	630V
C215	1-136-433-11	FILM	100PF	5%	630V
C216	1-136-230-00	FILM	0.0022uF	5%	100V
C217	1-136-228-11	FILM	0.0012uF	5%	100V
C218	1-136-233-11	FILM	0.0047uF	5%	100V
C220	1-124-122-11	ELECT	100uF	20%	50V
C300	1-162-294-31	CERAMIC	0.001uF	10%	50V
C301	1-130-834-00	FILM	1uF	10%	63V
C302	1-164-159-11	CERAMIC	0.1uF		50V
C303	1-162-211-31	CERAMIC	33PF	5%	50V
C304	1-126-059-11	ELECT	10uF	20%	63V
C305	1-136-153-00	FILM	0.01uF	5%	50V
C307	1-126-022-11	ELECT	47uF	20%	10V
C308	1-164-159-11	CERAMIC	0.1uF		50V
C309	1-124-983-11	ELECT	330uF	20%	6.3V
C310	1-130-834-00	FILM	1uF	10%	63V
C311	1-162-279-31	CERAMIC	75PF	10%	50V
C312	1-126-022-11	ELECT	47uF	20%	10V
C313	1-126-023-11	ELECT	100uF	20%	25V
C314	1-162-199-31	CERAMIC	10PF	5%	50V
C315	1-162-294-31	CERAMIC	0.001uF	10%	50V
C316	1-162-199-31	CERAMIC	10PF	5%	50V
C317	1-162-201-31	CERAMIC	12PF	5%	50V
C318	1-162-201-31	CERAMIC	12PF	5%	50V
C319	1-164-159-11	CERAMIC	0.1uF		50V
C320	1-130-834-00	FILM	1uF	10%	63V
C321	1-136-165-00	FILM	0.1uF	5%	50V
C322	1-164-159-11	CERAMIC	0.1uF		50V
C323	1-162-206-31	CERAMIC	20PF	5%	50V
C324	1-164-159-11	CERAMIC	0.1uF		50V
C325	1-126-022-11	ELECT	47uF	20%	10V
C326	1-162-201-31	CERAMIC	12PF	5%	50V
C327	1-162-201-31	CERAMIC	12PF	5%	50V
C328	1-124-903-11	ELECT	1uF	20%	50V
C329	1-162-294-31	CERAMIC	0.001uF	10%	50V
C330	1-162-294-31	CERAMIC	0.001uF	10%	50V
C331	1-162-294-31	CERAMIC	0.001uF	10%	50V
C345	1-162-201-31	CERAMIC	12PF	5%	50V
C346	1-162-199-31	CERAMIC	10PF	5%	50V
C347	1-162-294-31	CERAMIC	0.001uF	10%	50V
C362	1-126-043-11	ELECT	0.47uF	20%	50V
C363	1-126-059-11	ELECT	10uF	20%	63V
C390	1-162-215-31	CERAMIC	47PF	5%	50V
C391	1-162-215-31	CERAMIC	47PF	5%	50V
C401	1-136-165-00	FILM	0.1uF	5%	50V
C402	1-136-165-00	FILM	0.1uF	5%	50V
C403	1-136-165-00	FILM	0.1uF	5%	50V
C404	1-136-165-00	FILM	0.1uF	5%	50V
C405	1-136-165-00	FILM	0.1uF	5%	50V
C406	1-126-058-11	ELECT	4.7uF	20%	63V
C407	1-136-165-00	FILM	0.1uF	5%	50V
C408	1-136-165-00	FILM	0.1uF	5%	50V
C409	1-126-104-11	ELECT	470uF	20%	35V
C410	1-136-165-00	FILM	0.1uF	5%	50V
C411	1-126-104-11	ELECT	470uF	20%	35V
C412	1-136-165-00	FILM	0.1uF	5%	50V
C413	1-126-104-11	ELECT	470uF	20%	35V
C414	1-126-104-11	ELECT	470uF	20%	35V
C415	1-136-165-00	FILM	0.1uF	5%	50V
C416	1-136-165-00	FILM	0.1uF	5%	50V
C417	1-164-159-11	CERAMIC	0.1uF		50V
C418	1-136-165-00	FILM	0.1uF	5%	50V
C419	1-136-165-00	FILM	0.1uF	5%	50V
C420	1-136-165-00	FILM	0.1uF	5%	50V
C421	1-136-165-00	FILM	0.1uF	5%	50V
C422	1-126-023-11	ELECT	100uF	20%	25V
C423	1-126-023-11	ELECT	100uF	20%	25V
C424	1-136-165-00	FILM	0.1uF	5%	50V
C425	1-126-104-11	ELECT	470uF	20%	35V
C426	1-136-165-00	FILM	0.1uF	5%	50V
C427	1-136-165-00	FILM	0.1uF	5%	50V
C428	1-136-165-00	FILM	0.1uF	5%	50V
C429	1-136-165-00	FILM	0.1uF	5%	50V
C430	1-126-059-11	ELECT	10uF	20%	63V
C431	1-126-059-11	ELECT	10uF	20%	63V
C432	1-124-273-00	ELECT	3.3uF	20%	50V
C435	1-126-023-11	ELECT	100uF	20%	25V
C436	1-126-023-11	ELECT	100uF	20%	25V
C437	1-124-997-11	ELECT	470uF	20%	6.3V
C438	1-124-997-11	ELECT	470uF	20%	6.3V
C439	1-164-159-11	CERAMIC	0.1uF		50V
C440	1-124-983-11	ELECT	330uF	20%	6.3V

When indicating parts by reference number, please include the board name.

MAIN

Ref. No.	Part No.	Description			Remarks
C441	1-164-159-11	CERAMIC	0.1uF		50V
C442	1-164-159-11	CERAMIC	0.1uF		50V
C444	1-164-159-11	CERAMIC	0.1uF		50V
C445	1-164-159-11	CERAMIC	0.1uF		50V
C446	1-164-159-11	CERAMIC	0.1uF		50V
C447	1-164-159-11	CERAMIC	0.1uF		50V
C448	1-164-159-11	CERAMIC	0.1uF		50V
C449	1-164-159-11	CERAMIC	0.1uF		50V
C450	1-136-165-00	FILM	0.1uF	5%	50V
C451	1-136-165-00	FILM	0.1uF	5%	50V
C452	1-162-179-11	CERAMIC	0.1uF		50V
C460	1-164-159-11	CERAMIC	0.1uF		50V
C461	1-164-159-11	CERAMIC	0.1uF		50V
C462	1-164-159-11	CERAMIC	0.1uF		50V
		〈 CONNECTOR 〉			
CN104	* 1-564-507-11	PLUG, CONNECTOR 4P			
CN105	* 1-564-507-11	PLUG, CONNECTOR 4P			
CN107	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN301	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CN308	* 1-564-339-00	PIN, CONNECTOR 5P			
CN333	* 1-564-514-11	PLUG, CONNECTOR 11P			
CN398	* 1-564-336-00	PIN, CONNECTOR 2P			
CN501	* 1-564-716-11	PIN, CONNECTOR (SMALL TYPE)14P			
CN508	* 1-568-933-11	SOCKET, CONNECTOR 30P			
CN557	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P			
CN571	* 1-568-829-11	SOCKET, CONNECTOR 10P			
CN572	* 1-568-825-11	SOCKET, CONNECTOR 6P			
CN576	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
		〈 TRIMMER 〉			
CT301	1-141-334-11	CAP, VAR, TRIMMER			
		〈 DIODE 〉			
D101	8-719-107-94	DIODE	1SS202-1		
D102	8-719-107-94	DIODE	1SS202-1		
D201	8-719-107-94	DIODE	1SS202-1		
D202	8-719-107-94	DIODE	1SS202-1		
D306	8-719-200-82	DIODE	11ES2		
D307	8-719-107-94	DIODE	1SS202-1		
D308	8-719-107-94	DIODE	1SS202-1		
D314	8-719-200-82	DIODE	11ES2		
D321	8-719-107-94	DIODE	1SS202-1		
D322	8-719-911-06	DIODE	1SS106		
D323	8-719-107-94	DIODE	1SS202-1		
D324	8-719-911-06	DIODE	1SS106		
D403	8-719-107-94	DIODE	1SS202-1		
D404	8-719-210-21	DIODE	11EQS04		
		〈 IC 〉			
IC301	8-759-917-18	IC	SN74HCU04N		
IC302	8-759-232-49	IC	TC74HC132AP		
IC303	8-759-917-18	IC	SN74HCU04N		
IC304	8-759-135-80	IC	uPC358C		
IC305	8-759-926-17	IC	SN74HC153ANS		
IC306	8-759-947-57	IC	CXD1136Q		
IC307	8-752-339-43	IC	CXD2601AQ		
IC308	8-759-906-24	IC	SN74LS624N		
IC309	8-759-925-90	IC	SN74HC74ANS		
IC310	8-752-337-80	IC	CXK58257AM-12L		
IC311	8-752-832-76	IC	CXP80524-046Q		
IC312	8-752-832-75	IC	CXP80524-045Q		
IC319	8-759-633-65	IC	M54641L		
IC320	8-759-633-65	IC	M54641L		
IC321	8-759-971-12	IC	PST529E		
IC322	8-759-231-53	IC	TA7805S		
IC330	8-759-984-34	IC	RP5C62		
IC333	8-759-917-18	IC	SN74HCU04N		
IC354	8-759-900-72	IC	NE5532P		
IC355	8-759-900-72	IC	NE5532P		
IC356	8-759-945-58	IC	RC4558P		
IC357	8-759-231-53	IC	TA7805S		
IC358	8-759-245-79	IC	TA7905S		
IC359	8-759-504-36	IC	AK5339		
IC360	8-759-972-47	IC	LF412CN		
IC361	8-759-602-83	IC	M5238P		
IC362	8-752-344-10	IC	CXD2561M-1		
IC363	8-752-342-65	IC	CXD2560M		
IC374	8-759-634-55	IC	M5F7805L-720		
IC375	8-759-900-72	IC	NE5532P		
IC376	8-759-900-72	IC	NE5532P		
IC431	8-759-925-78	IC	TC74HC10F		
IC432	8-759-995-76	IC	PST529C		
		〈 JACK 〉			
J181	1-565-406-41	JACK, PIN 1P (DIGITAL OUT)			
J191	1-568-750-21	JACK, PIN (1P SHIELD TYPE) (DIGITAL IN)			
		〈 COIL 〉			
L302	1-410-498-11	INDUCTOR	1.2uH		
L303	1-410-509-11	INDUCTOR	10uH		
L305	1-410-509-11	INDUCTOR	10uH		
L306	1-410-509-11	INDUCTOR	10uH		
L310	1-410-953-11	INDUCTOR, SMALL TYPE			
L311	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
L312	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
		〈 TRANSISTOR 〉			
Q301	8-729-927-11	TRANSISTOR	2SA1585SQR		
Q311	8-729-900-80	TRANSISTOR	DTC114ES		
Q312	8-729-107-85	TRANSISTOR	2SC3623A-K		
Q313	8-729-900-61	TRANSISTOR	DTA114ES		
Q318	8-729-900-80	TRANSISTOR	DTC114ES		
Q319	8-729-900-80	TRANSISTOR	DTC114ES		

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description				Remarks
Q320	8-729-927-11	TRANSISTOR	2SA1585SQR			
Q321	8-729-927-12	TRANSISTOR	2SC4115SQR			
Q343	8-729-920-68	TRANSISTOR	2SA933S-QR			
Q390	8-729-904-36	TRANSISTOR	DTC114YS			
Q399	8-729-900-80	TRANSISTOR	DTC114ES			
Q432	8-729-900-80	TRANSISTOR	DTC114ES			
Q433	8-729-107-85	TRANSISTOR	2SC3623A-K			
Q434	8-729-107-85	TRANSISTOR	2SC3623A-K			
Q435	8-729-900-61	TRANSISTOR	DTA114ES			
Q436	8-729-900-80	TRANSISTOR	DTC114ES			
Q437	8-729-900-61	TRANSISTOR	DTA114ES			
Q438	8-729-900-80	TRANSISTOR	DTC114ES			
Q439	8-729-900-80	TRANSISTOR	DTC114ES			
Q440	8-729-119-78	TRANSISTOR	2SC2785-HFE			
		〈 RESISTOR 〉				
R102	1-247-903-00	CARBON	1M	5%	1/4W	
R103	1-249-417-11	CARBON	1K	5%	1/4W	
R104	1-249-433-11	CARBON	22K	5%	1/4W	
R105	1-249-435-11	CARBON	33K	5%	1/4W	
R106	1-249-403-11	CARBON	68	5%	1/4W	
R107	1-247-854-11	CARBON	9.1K	5%	1/4W	
R108	1-247-854-11	CARBON	9.1K	5%	1/4W	
R109	1-247-854-11	CARBON	9.1K	5%	1/4W	
R110	1-247-854-11	CARBON	9.1K	5%	1/4W	
R111	1-249-425-11	CARBON	4.7K	5%	1/4W	
R112	1-249-425-11	CARBON	4.7K	5%	1/4W	
R113	1-249-425-11	CARBON	4.7K	5%	1/4W	
R114	1-249-425-11	CARBON	4.7K	5%	1/4W	
R115	1-249-430-11	CARBON	12K	5%	1/4W	
R116	1-249-430-11	CARBON	12K	5%	1/4W	
R117	1-249-426-11	CARBON	5.6K	5%	1/4W	
R118	1-249-426-11	CARBON	5.6K	5%	1/4W	
R119	1-249-426-11	CARBON	5.6K	5%	1/4W	
R120	1-249-426-11	CARBON	5.6K	5%	1/4W	
R121	1-249-405-11	CARBON	100	5%	1/4W	
R122	1-249-419-11	CARBON	1.5K	5%	1/4W	
R123	1-249-419-11	CARBON	1.5K	5%	1/4W	
R124	1-249-441-11	CARBON	100K	5%	1/4W	
R125	1-249-409-11	CARBON	220	5%	1/4W	
R126	1-249-429-11	CARBON	10K	5%	1/4W	
R180	1-249-397-11	CARBON	22	5%	1/4W	
R202	1-247-903-00	CARBON	1M	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-433-11	CARBON	22K	5%	1/4W	
R205	1-249-435-11	CARBON	33K	5%	1/4W	
R206	1-249-403-11	CARBON	68	5%	1/4W	
R207	1-247-854-11	CARBON	9.1K	5%	1/4W	
R208	1-247-854-11	CARBON	9.1K	5%	1/4W	
R209	1-247-854-11	CARBON	9.1K	5%	1/4W	
R210	1-247-854-11	CARBON	9.1K	5%	1/4W	
R211	1-249-425-11	CARBON	4.7K	5%	1/4W	

Ref. No.	Part No.	Description				Remarks
R212	1-249-425-11	CARBON	4.7K	5%	1/4W	
R213	1-249-425-11	CARBON	4.7K	5%	1/4W	
R214	1-249-425-11	CARBON	4.7K	5%	1/4W	
R215	1-249-430-11	CARBON	12K	5%	1/4W	
R216	1-249-430-11	CARBON	12K	5%	1/4W	
R217	1-249-426-11	CARBON	5.6K	5%	1/4W	
R218	1-249-426-11	CARBON	5.6K	5%	1/4W	
R219	1-249-426-11	CARBON	5.6K	5%	1/4W	
R220	1-249-426-11	CARBON	5.6K	5%	1/4W	
R221	1-249-405-11	CARBON	100	5%	1/4W	
R222	1-249-419-11	CARBON	1.5K	5%	1/4W	
R223	1-249-419-11	CARBON	1.5K	5%	1/4W	
R224	1-249-441-11	CARBON	100K	5%	1/4W	
R225	1-249-409-11	CARBON	220	5%	1/4W	
R226	1-249-429-11	CARBON	10K	5%	1/4W	
R280	1-249-397-11	CARBON	22	5%	1/4W	
R301	1-247-804-11	CARBON	75	5%	1/4W	
R302	1-249-437-11	CARBON	47K	5%	1/4W	
R303	1-249-421-11	CARBON	2.2K	5%	1/4W	
R304	1-249-441-11	CARBON	100K	5%	1/4W	
R305	1-249-421-11	CARBON	2.2K	5%	1/4W	
R306	1-249-417-11	CARBON	1K	5%	1/4W	
R307	1-249-417-11	CARBON	1K	5%	1/4W	
R308	1-249-425-11	CARBON	4.7K	5%	1/4W	
R309	1-249-421-11	CARBON	2.2K	5%	1/4W	
R310	1-249-441-11	CARBON	100K	5%	1/4W	
R311	1-249-429-11	CARBON	10K	5%	1/4W	
R312	1-249-421-11	CARBON	2.2K	5%	1/4W	
R313	1-249-421-11	CARBON	2.2K	5%	1/4W	
R314	1-249-435-11	CARBON	33K	5%	1/4W	
R315	1-249-429-11	CARBON	10K	5%	1/4W	
R316	1-247-804-11	CARBON	75	5%	1/4W	
R317	1-249-405-11	CARBON	100	5%	1/4W	
R318	1-249-409-11	CARBON	220	5%	1/4W	
R319	1-249-409-11	CARBON	220	5%	1/4W	
R320	1-247-804-11	CARBON	75	5%	1/4W	
R321	1-249-405-11	CARBON	100	5%	1/4W	
R322	1-249-429-11	CARBON	10K	5%	1/4W	
R323	1-249-433-11	CARBON	22K	5%	1/4W	
R324	1-249-433-11	CARBON	22K	5%	1/4W	
R325	1-249-425-11	CARBON	4.7K	5%	1/4W	
R326	1-249-409-11	CARBON	220	5%	1/4W	
R327	1-249-425-11	CARBON	4.7K	5%	1/4W	
R328	1-249-417-11	CARBON	1K	5%	1/4W	
R329	1-249-413-11	CARBON	470	5%	1/4W	
R330	1-249-417-11	CARBON	1K	5%	1/4W	
R331	1-249-429-11	CARBON	10K	5%	1/4W	
R332	1-249-429-11	CARBON	10K	5%	1/4W	
R333	1-249-433-11	CARBON	22K	5%	1/4W	
R334	1-249-425-11	CARBON	4.7K	5%	1/4W	
R335	1-249-425-11	CARBON	4.7K	5%	1/4W	
R336	1-249-425-11	CARBON	4.7K	5%	1/4W	

When indicating parts by reference number, please include the board name.

MAIN MOTOR

Ref. No.	Part No.	Description				Remarks
R346	1-249-441-11	CARBON	100K	5%	1/4W	
R347	1-249-441-11	CARBON	100K	5%	1/4W	
R348	1-249-441-11	CARBON	100K	5%	1/4W	
R349	1-249-441-11	CARBON	100K	5%	1/4W	
R350	1-249-425-11	CARBON	4.7K	5%	1/4W	
R351	1-249-425-11	CARBON	4.7K	5%	1/4W	
R353	1-249-441-11	CARBON	100K	5%	1/4W	
R365	1-249-425-11	CARBON	4.7K	5%	1/4W	
R370	1-247-738-11	CARBON	82	5%	1/2W	
R378	1-249-417-11	CARBON	1K	5%	1/4W	
R379	1-249-401-11	CARBON	47	5%	1/4W	
R380	1-249-411-11	CARBON	330	5%	1/4W	
R381 ⚠	1-215-881-11	METAL OXIDE	15	5%	2W	F
R386	1-249-405-11	CARBON	100	5%	1/4W	
R387	1-249-405-11	CARBON	100	5%	1/4W	
R388	1-249-423-11	CARBON	3.3K	5%	1/4W	
R389	1-249-423-11	CARBON	3.3K	5%	1/4W	
R390	1-249-423-11	CARBON	3.3K	5%	1/4W	
R391	1-249-423-11	CARBON	3.3K	5%	1/4W	
R392	1-249-430-11	CARBON	12K	5%	1/4W	
R393	1-247-864-11	CARBON	24K	5%	1/4W	
R394	1-249-429-11	CARBON	10K	5%	1/4W	
R395	1-249-425-11	CARBON	4.7K	5%	1/4W	
R396	1-249-441-11	CARBON	100K	5%	1/4W	
R397	1-249-441-11	CARBON	100K	5%	1/4W	
R398	1-249-441-11	CARBON	100K	5%	1/4W	
R399	1-249-441-11	CARBON	100K	5%	1/4W	
R400	1-249-441-11	CARBON	100K	5%	1/4W	
R401	1-249-441-11	CARBON	100K	5%	1/4W	
R402	1-249-441-11	CARBON	100K	5%	1/4W	
R403	1-249-441-11	CARBON	100K	5%	1/4W	
R404	1-249-441-11	CARBON	100K	5%	1/4W	
R405	1-249-441-11	CARBON	100K	5%	1/4W	
R406	1-249-429-11	CARBON	10K	5%	1/4W	
R407	1-249-429-11	CARBON	10K	5%	1/4W	
R408	1-249-429-11	CARBON	10K	5%	1/4W	
R409	1-249-425-11	CARBON	4.7K	5%	1/4W	
R410	1-249-425-11	CARBON	4.7K	5%	1/4W	
R411	1-249-417-11	CARBON	1K	5%	1/4W	
R412	1-249-441-11	CARBON	100K	5%	1/4W	
R413	1-249-437-11	CARBON	47K	5%	1/4W	
R414	1-249-413-11	CARBON	470	5%	1/4W	
R415	1-249-437-11	CARBON	47K	5%	1/4W	
R416	1-249-437-11	CARBON	47K	5%	1/4W	
R417	1-249-437-11	CARBON	47K	5%	1/4W	
R418	1-249-413-11	CARBON	470	5%	1/4W	
R419	1-249-413-11	CARBON	470	5%	1/4W	
R420	1-249-413-11	CARBON	470	5%	1/4W	
R421	1-249-413-11	CARBON	470	5%	1/4W	
R422	1-249-413-11	CARBON	470	5%	1/4W	
R424	1-249-411-11	CARBON	330	5%	1/4W	
R425	1-249-411-11	CARBON	330	5%	1/4W	
R430	1-249-399-11	CARBON	33	5%	1/4W	
R431	1-249-399-11	CARBON	33	5%	1/4W	
R432	1-249-393-11	CARBON	10	5%	1/4W	
R433	1-216-349-00	CARBON	1	5%	1/2W	
R434	1-249-409-11	CARBON	220	5%	1/4W	
R435	1-249-409-11	CARBON	220	5%	1/4W	
R436	1-249-409-11	CARBON	220	5%	1/4W	
R437	1-249-409-11	CARBON	220	5%	1/4W	
R438	1-249-409-11	CARBON	220	5%	1/4W	
R439	1-249-437-11	CARBON	47K	5%	1/4W	
R440	1-249-441-11	CARBON	100K	5%	1/4W	
R441	1-249-441-11	CARBON	100K	5%	1/4W	
R442	1-249-441-11	CARBON	100K	5%	1/4W	
R443	1-249-437-11	CARBON	47K	5%	1/4W	
R444	1-249-417-11	CARBON	1K	5%	1/4W	
R445	1-249-419-11	CARBON	1.5K	5%	1/4W	
R446	1-247-883-00	CARBON	150K	5%	1/4W	
R447	1-249-425-11	CARBON	4.7K	5%	1/4W	
R448	1-249-413-11	CARBON	470	5%	1/4W	
R449	1-249-424-11	CARBON	3.9K	5%	1/4W	
R451	1-247-891-00	CARBON	330K	5%	1/4W	
R460	1-249-429-11	CARBON	10K	5%	1/4W	
R470	1-247-903-00	CARBON	1M	5%	1/4W	
R480	1-247-903-00	CARBON	1M	5%	1/4W	
R495	1-249-417-11	CARBON	1K	5%	1/4W	
R496	1-249-417-11	CARBON	1K	5%	1/4W	
R497	1-247-903-00	CARBON	1M	5%	1/4W	
R498	1-247-903-00	CARBON	1M	5%	1/4W	
R499	1-249-429-11	CARBON	10K	5%	1/4W	

〈 RELAY 〉

RY301	1-515-726-11	RELAY

〈 COIL 〉

T301	1-459-795-11	COIL (WITH CORE)

〈 CRYSTAL 〉

X301	1-567-816-11	VIBRATOR, CRYSTAL (18.816MHz)
X302	1-567-815-11	VIBRATOR, CRYSTAL (22.5792MHz)
X303	1-578-667-11	VIBRATOR, CRYSTAL (49.152MHz)
X304	1-567-098-00	OSCILLATOR, CRYSTAL (32.768kHz)

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* 1-639-646-11 MOTOR BOARD
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〈 CAPACITOR 〉

C01	1-162-851-11	CERAMIC	0.1MF	16V

〈 CONNECTOR 〉

CN01	* 1-564-336-00	PIN, CONNECTOR 2P

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

MOTOR **PLL** **POWER**

Ref. No.	Part No.	Description			Remarks
CN02	* 1-564-336-61	PIN, CONNECTOR 2P			
CN03	* 1-564-498-11	PIN, CONNECTOR 5P			
		〈 MOTOR 〉			
M901	A-2003-448-A	MOTOR ASSY (CASSETTE COMPARTMENT)			
**********					
	* 1-639-920-11	PLL BOARD			
		*********			
	1-543-563-11	FERRITE BOARD, MULTI HOLE			
		〈 CAPACITOR 〉			
C501	1-136-153-00	FILM	0.01uF	5%	50V
C502	1-162-284-31	CERAMIC	150PF	10%	50V
C503	1-162-199-31	CERAMIC	10PF	5%	50V
C504	1-126-023-11	ELECT	100uF	20%	25V
C505	1-162-211-31	CERAMIC	33PF	5%	50V
C506	1-162-199-31	CERAMIC	10PF	5%	50V
C507	1-136-158-00	FILM	0.027uF	5%	50V
C508	1-136-165-00	FILM	0.1uF	5%	50V
C509	1-126-023-11	ELECT	100uF	20%	25V
C510	1-136-165-00	FILM	0.1uF	5%	50V
C511	1-126-023-11	ELECT	100uF	20%	25V
C512	1-164-159-11	CERAMIC	0.1uF		50V
C513	1-126-023-11	ELECT	100uF	20%	25V
C514	1-136-165-00	FILM	0.1uF	5%	50V
C515	1-130-834-00	FILM	1uF	10%	63V
C516	1-136-165-00	FILM	0.1uF	5%	50V
C517	1-164-159-11	CERAMIC	0.1uF		50V
C520	1-164-159-11	CERAMIC	0.1uF		50V
		〈 CONNECTOR 〉			
CN558	* 1-573-299-11	CONNECTOR, BOARD TO BOARD 10P			
		〈 DIODE 〉			
D501	8-719-901-59	DIODE KV1320			
D503	8-719-903-27	DIODE 1SS168			
		〈 IC 〉			
IC501	8-759-604-30	IC M5F7808L			
IC502	8-759-036-44	IC MC74AC74N			
IC503	8-759-917-11	IC SN74HC393AN			
IC504	8-759-250-81	IC TC5081AP			
		〈 COIL 〉			
L501	1-460-042-11	COIL (WITH CORE)			
L502	1-410-324-11	INDUCTOR	4.7uH		
L503	1-410-324-11	INDUCTOR	4.7uH		
L504	1-410-324-11	INDUCTOR	4.7uH		
L505	1-460-042-11	COIL (WITH CORE)			

Ref. No.	Part No.	Description			Remarks
		〈 TRANSISTOR 〉			
Q501	8-729-200-56	TRANSISTOR 2SK241-GR			
Q502	8-729-200-56	TRANSISTOR 2SK241-GR			
Q503	8-729-900-61	TRANSISTOR DTA114ES			
		〈 RESISTOR 〉			
R501	1-249-417-11	CARBON	1K	5%	1/4W
R502	1-247-903-00	CARBON	1M	5%	1/4W
R503	1-247-903-00	CARBON	1M	5%	1/4W
R504	1-249-429-11	CARBON	10K	5%	1/4W
R505	1-249-428-11	CARBON	8.2K	5%	1/4W
R506	1-249-441-11	CARBON	100K	5%	1/4W
R507	1-249-417-11	CARBON	1K	5%	1/4W
R508	1-249-417-11	CARBON	1K	5%	1/4W
R509	1-249-417-11	CARBON	1K	5%	1/4W
R510	1-249-407-11	CARBON	150	5%	1/4W
R511	1-249-425-11	CARBON	4.7K	5%	1/4W
R512	1-249-425-11	CARBON	4.7K	5%	1/4W
R513	1-249-417-11	CARBON	1K	5%	1/4W
R514	1-249-423-11	CARBON	3.3K	5%	1/4W
R515	1-249-423-11	CARBON	3.3K	5%	1/4W
R516	1-249-433-11	CARBON	22K	5%	1/4W
R517	1-249-435-11	CARBON	33K	5%	1/4W
R518	1-249-417-11	CARBON	1K	5%	1/4W
R519	1-249-417-11	CARBON	1K	5%	1/4W
**********					
	A-2006-647-A	POWER BOARD, COMPLETE			
		**********			
⚠	* 1-533-213-31	HOLDER, FUSE			
	7-682-147-15	SCREW, TR			
	* 4-363-146-71	HEAT SINK, V.OUT			
		〈 CAPACITOR 〉			
C907	1-126-946-11	ELECT	6800uF	20%	25V
C908	1-164-159-11	CERAMIC	0.1uF		50V
C909	1-124-473-11	ELECT	1000uF	20%	10V
C910	1-164-159-11	CERAMIC	0.1uF		50V
C911	1-164-159-11	CERAMIC	0.1uF		50V
C912	1-124-473-11	ELECT	1000uF	20%	10V
C913	1-126-104-11	ELECT	470uF	20%	35V
C914	1-126-104-11	ELECT	470uF	20%	35V
C915	1-126-049-11	ELECT	22uF	20%	50V
C916	1-126-052-11	ELECT	100uF	20%	50V
C917	1-136-165-00	FILM	0.1uF	5%	50V
C918	1-130-834-00	FILM	1uF	10%	63V
C919	1-136-165-00	FILM	0.1uF	5%	50V
C920	1-126-129-11	ELECT	6800uF	20%	35V
C921	1-126-129-11	ELECT	6800uF	20%	35V
C922	1-164-159-11	CERAMIC	0.1uF		50V

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Replace only with part number specified.

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Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

POWER | RELAY | PRIMARY | REC VOL | REEL MOTOR | REMOTE

Ref. No.	Part No.	Description			Remarks
C923	1-164-159-11	CERAMIC	0.1uF		50V
C924	1-164-159-11	CERAMIC	0.1uF		50V
C925	1-164-159-11	CERAMIC	0.1uF		50V
C926	1-126-105-11	ELECT	1000uF	20%	35V
C927	1-126-105-11	ELECT	1000uF	20%	35V
		〈 CONNECTOR 〉			
CN905	* 1-560-338-00	PIN, CONNECTOR 7P			
CN906	* 1-560-061-00	PIN, CONNECTOR 3P			
CN931	* 1-564-505-11	PLUG, CONNECTOR 2P			
CN932	* 1-564-511-11	PLUG, CONNECTOR 8P			
CN933	* 1-564-506-11	PLUG, CONNECTOR 3P			
CN981	* 1-564-506-11	PLUG, CONNECTOR 3P			
		〈 DIODE 〉			
D905	8-719-312-47	DIODE	RBA-406B		
D906	8-719-107-94	DIODE	1SS202-1		
D907	8-719-200-82	DIODE	11ES2		
D908	8-719-200-82	DIODE	11ES2		
D909	8-719-934-15	DIODE	HZS24-3L		
D910	8-719-933-33	DIODE	HZS6A1L		
D911	8-719-230-02	DIODE	30DF2		
D912	8-719-230-02	DIODE	30DF2		
D913	8-719-230-02	DIODE	30DF2		
D914	8-719-230-02	DIODE	30DF2		
D915	8-719-107-94	DIODE	1SS202-1		
D916	8-719-107-94	DIODE	1SS202-1		
		〈 FUSE 〉			
F901	⚠ 1-532-286-00	FUSE, TIME-LAG (T2.5A) (AEP, UK)			
F901	⚠ 1-532-744-11	FUSE, GLASS TUBE (2.5A) (US, CND)			
		〈 IC 〉			
IC901	8-759-148-79	IC	uPC2406HF		
IC902	8-759-231-53	IC	TA7805S		
IC903	8-759-231-58	IC	TA7812SL		
IC904	8-759-604-51	IC	M5F7912L		
		〈 TRANSISTOR 〉			
Q901	8-729-140-97	TRANSISTOR	2SB734-34		
		〈 RESISTOR 〉			
R901	1-249-425-11	CARBON	4.7K	5%	1/4W
R902	⚠ 1-212-849-00	FUSIBLE	4.7	5%	1/4W F
R903	1-249-421-11	CARBON	2.2K	5%	1/4W
R904	⚠ 1-212-865-00	FUSIBLE	22	5%	1/4W F
R905	1-249-433-11	CARBON	22K	5%	1/4W
		〈 TRANSFORMER 〉			
T901	⚠ 1-450-556-11	TRANSFORMER, POWER (US, CND)			
T901	⚠ 1-450-557-11	TRANSFORMER, POWER (AEP, UK)			

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Ref. No.	Part No.	Description			Remarks
	* 1-639-332-11	RELAY BOARD			
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	* 1-639-333-11	PRIMARY BOARD			
		**********			
	* 3-346-266-12	PLATE, GROUND			
		〈 CAPACITOR 〉			
C901	⚠ 1-161-744-00	CERAMIC	0.01uF		400V
C902	⚠ 1-161-742-00	CERAMIC	0.0022uF	20%	400V
C903	⚠ 1-161-742-00	CERAMIC	0.0022uF	20%	400V
C904	⚠ 1-161-742-00	CERAMIC	0.0022uF	20%	400V
C905	⚠ 1-161-742-00	CERAMIC	0.0022uF	20%	400V
C906	⚠ 1-161-744-00	CERAMIC	0.01uF		400V
		〈 CONNECTOR 〉			
CN901	* 1-564-321-00	PIN, CONNECTOR 2P			
CN902	1-564-321-00	PIN, CONNECTOR 2P			
		〈 COIL 〉			
L901	⚠ 1-421-915-11	COIL, LINE FILTER			

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	* 1-639-325-11	REC VOL BOARD			
		**********			
		〈 VARIABLE RESISTOR 〉			
RV102	1-238-833-21	RES, VAR, CARBON 20K/20K (REC LEVEL)			

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	* 1-639-304-11	REEL MOTOR BOARD			
		**********			
		〈 CAPACITOR 〉			
C07	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
		〈 MOTOR 〉			
M905	X-3363-110-1	MOTOR (REEL) ASSY			

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	1-640-289-11	REMOTE BOARD			
		**********			
		〈 CAPACITOR 〉			
C884	1-164-159-11	CERAMIC	0.1uF		50V
C885	1-162-286-31	CERAMIC	220PF	10%	50V

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When indicating parts by reference number, please include the board name.

REMOTE | RF AMP | RGN SW | SUB

Ref. No.	Part No.	Description			Remarks
		〈 CONNECTOR 〉			
CN809	* 1-564-495-11	PIN, CONNECTOR 2P			
		〈 JACK 〉			
J806	1-565-327-11	JACK, LARGE TYPE 1P (REMOTE)			
		〈 COIL 〉			
L801	1-410-509-11	INDUCTOR	10uH		
**********					
	* A-2001-587-A	RF AMP BOARD, COMPLETE			
		**********			
		〈 CAPACITOR 〉			
C1	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C2	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C3	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C4	1-162-638-11	CERAMIC CHIP	1uF		16V
C5	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C6	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C7	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C8	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C9	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C10	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C11	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C12	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C13	1-162-638-11	CERAMIC CHIP	1uF		16V
C14	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C15	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C16	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C17	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C19	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C20	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C21	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C22	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C23	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C24	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C25	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C26	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C27	1-162-638-11	CERAMIC CHIP	1uF		16V
C28	1-164-505-11	CERAMIC CHIP	2.2uF		16V
		〈 CONNECTOR 〉			
CN51	* 1-566-207-11	PIN, CONNECTOR (PC BOARD) 14P			
CN52	* 1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P			
		〈 IC 〉			
IC1	8-752-039-01	IC CXA1364R			

Ref. No.	Part No.	Description				Remarks
		〈 COIL 〉				
L1	1-408-781-00	INDUCTOR CHIP	22uH			
L2	1-408-789-21	INDUCTOR, CHIP	100uH			
L3	1-408-781-00	INDUCTOR CHIP	22uH			
		〈 RESISTOR 〉				
R1	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R2	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R3	1-216-066-00	METAL CHIP	5.1K	5%	1/10W	
R4	1-216-066-00	METAL CHIP	5.1K	5%	1/10W	
R5	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R6	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R7	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R8	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R9	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R10	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R11	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R12	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R13	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R14	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R15	1-216-234-00	METAL GLAZE	33K	5%	1/8W	
R16	1-216-238-00	METAL GLAZE	47K	5%	1/8W	
R17	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R18	1-216-222-00	METAL GLAZE	10K	5%	1/8W	
		〈 VARIABLE RESISTOR 〉				
RV1	1-238-181-11	RES, ADJ, CERMET	4.7K			
RV2	1-238-181-11	RES, ADJ, CERMET	4.7K			
**********						
	* 1-639-301-11	RGN SW BOARD				
		**********				
		〈 SWITCH 〉				
S01	1-571-878-11	SWITCH, PUSH (2 KEY)				
**********						
	* A-2006-553-A	SUB BOARD, COMPLETE				
		**********				
		〈 BATTERY 〉				
BAT301⚠	1-528-229-11	BATTERY, LITHIUM (CR-2450)				
		〈 CAPACITOR 〉				
C332	1-136-153-00	FILM	0.01uF	5%	50V	
C333	1-130-473-00	MYLAR	0.0015uF	5%	50V	
C334	1-136-158-00	FILM	0.027uF	5%	50V	
C335	1-136-153-00	FILM	0.01uF	5%	50V	
C336	1-130-473-00	MYLAR	0.0015uF	5%	50V	
C337	1-136-158-00	FILM	0.027uF	5%	50V	

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When indicating parts by reference number, please include the board name.

SUB SW (IN) SW (OUT) TIMER SW TOP END SENSOR

Ref. No.	Part No.	Description				Remarks
C338	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C339	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C340	1-162-290-31	CERAMIC	470PF	10%	50V	
C341	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C342	1-126-059-11	ELECT	10uF	20%	63V	
C343	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C344	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C348	1-130-834-00	FILM	1uF	10%	63V	
		〈 CONNECTOR 〉				
CN556	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P				
		〈 IC 〉				
IC316	8-759-135-80	IC uPC358C				
IC317	8-759-135-80	IC uPC358C				
IC318	8-759-135-80	IC uPC358C				
		〈 TRANSISTOR 〉				
Q302	8-729-801-93	TRANSISTOR	2SD1387-3			
Q333	8-729-924-90	TRANSISTOR	2SB1370-EF			
Q334	8-729-920-68	TRANSISTOR	2SA933S-QR			
Q335	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q336	8-729-927-11	TRANSISTOR	2SA1585SQR			
Q337	8-729-927-11	TRANSISTOR	2SA1585SQR			
Q338	8-729-927-12	TRANSISTOR	2SC4115SQR			
Q339	8-729-927-12	TRANSISTOR	2SC4115SQR			
Q340	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q341	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q342	8-729-209-15	TRANSISTOR	2SD2012			
		〈 RESISTOR 〉				
R337	1-249-429-11	CARBON	10K	5%	1/4W	
R338	1-249-433-11	CARBON	22K	5%	1/4W	
R339	1-249-401-11	CARBON	47	5%	1/4W	
R340	1-249-429-11	CARBON	10K	5%	1/4W	
R341	1-249-429-11	CARBON	10K	5%	1/4W	
R342	1-249-429-11	CARBON	10K	5%	1/4W	
R343	1-249-438-11	CARBON	56K	5%	1/4W	
R344	1-249-438-11	CARBON	56K	5%	1/4W	
R345	1-249-438-11	CARBON	56K	5%	1/4W	
R352	1-249-441-11	CARBON	100K	5%	1/4W	
R354	1-249-441-11	CARBON	100K	5%	1/4W	
R355	1-249-417-11	CARBON	1K	5%	1/4W	
R356	1-249-417-11	CARBON	1K	5%	1/4W	
R357	1-249-405-11	CARBON	100	5%	1/4W	
R358	1-249-417-11	CARBON	1K	5%	1/4W	
R359	1-249-408-11	CARBON	180	5%	1/4W	
R360	1-247-870-11	CARBON	43K	5%	1/4W	
R361	1-249-437-11	CARBON	47K	5%	1/4W	
R364	1-247-731-11	CARBON	22	5%	1/2W	
R366	1-249-441-11	CARBON	100K	5%	1/4W	
R367	1-249-417-11	CARBON	1K	5%	1/4W	
R368	1-249-417-11	CARBON	1K	5%	1/4W	
R369	1-249-405-11	CARBON	100	5%	1/4W	
R370	1-249-405-11	CARBON	100	5%	1/4W	
R371	1-249-417-11	CARBON	1K	5%	1/4W	
R372	1-249-405-11	CARBON	100	5%	1/4W	
R373	1-249-417-11	CARBON	1K	5%	1/4W	
R374	1-249-417-11	CARBON	1K	5%	1/4W	
R375	1-249-405-11	CARBON	100	5%	1/4W	
R376	1-249-417-11	CARBON	1K	5%	1/4W	
R377	1-249-441-11	CARBON	100K	5%	1/4W	
R382	1-249-441-11	CARBON	100K	5%	1/4W	
R383	1-249-401-11	CARBON	47	5%	1/4W	
R384	1-249-437-11	CARBON	47K	5%	1/4W	
R385	1-249-437-11	CARBON	47K	5%	1/4W	
**********						
* 1-639-647-11		SW (IN) BOARD				
		**********				
		〈 SWITCH 〉				
S12	1-572-247-11	SWITCH, SLIDE (CASSETTE TABLE IN)				
**********						
* 1-639-648-11		SW (OUT) BOARD				
		**********				
		〈 SWITCH 〉				
S11	1-570-975-11	SWITCH, SLIDE (CASSETTE TABLE OUT)				
**********						
* 1-639-329-11		TIMER SW BOARD				
		**********				
		〈 IC 〉				
IC704	8-749-922-36	IC GP1U50XB				
		〈 RESISTOR 〉				
R711	1-249-428-11	CARBON	8.2K	5%	1/4W	
R712	1-249-434-11	CARBON	27K	5%	1/4W	
		〈 SWITCH 〉				
S701	1-571-520-11	SWITCH, SLIDE (TIMER)				
S703	1-570-974-11	SWITCH, SLIDE (REC MODE)				
**********						
* 1-639-305-11		TOP END SENSOR BOARD				
		**********				
* 3-368-456-01		HOLDER (END SENSOR LIGHT)				
* 3-368-457-01		HOLDER (END SENSOR) (RECIEVE)				

When indicating parts by reference number, please include the board name.

TOP END SENSOR

Ref. No.	Part No.	Description	Remarks
		〈 DIODE 〉	
D01	8-719-951-03	DIODE GL-453	
		〈 PHOTO INTERUPTER 〉	
PH03	8-729-907-25	TRANSISTOR PT4850F	
PH04	8-729-907-25	TRANSISTOR PT4850F	
**********			
		MISCELLANEOUS	
		**********	
10	* 1-580-375-21	INLET 3P	
108	1-590-915-11	WIRE, FLAT TYPE (30 CORE)	
109	1-590-916-11	WIRE, FLAT TYPE (10 CORE)	
110	1-590-914-11	WIRE, FLAT TYPE (6 CORE)	
15	1-555-724-00	WIRE, GROUND	
325	8-848-567-11	DRUM ASSY DOU-03A	
382	1-454-535-11	SOLENOID, PLUNGER (BRAKE)	
383	1-454-536-11	SOLENOID, PLUNGER (BT CONTROL)	
69	1-518-634-11	LAMP, PILOT	
76	⚠ 1-554-920-21	SWITCH, PUSH (AC POWER) (1 KEY)	
77	1-590-321-71	LEAD (WITH CONNECTOR)	
M901-5	A-2003-448-A	MOTOR ASSY (CASSETTE COMPARTMENT)	
M902-6	8-835-361-01	MOTOR, DC U-17B	
M903-7	X-3363-109-1	MOTOR (CAM) ASSY	
M905-7	X-3363-110-1	MOTOR (REEL) ASSY	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-465-946-11	REMOTE COMMANDER (RM-D2300)	
⚠	1-556-760-11	CORD, POWER (3 CORE) (AEP, UK)	
⚠	1-557-377-11	CORD, POWER (US, CND)	
	1-690-665-11	CODE WITH PLUG	
	2-297-913-00	WASHER (DIA. 5), ORNAMENTAL	
	3-754-124-01	MANUAL, OPERATION (US, CND) (English, French)	
	3-754-125-01	MANUAL, OPERATION (AEP, UK)	
	4-933-446-01	SCREW (SIDE PANEL)	
*	4-936-624-01	CUSHION	
	7-682-276-04	SCREW +RK 5X12	
**********			

HARDWARE LIST

Ref. No.	Part No.	Description	Remarks
#1	7-682-548-09	SCREW +BVTT 3X8 (S)	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-685-647-79	SCREW, TAPPING	
#5	7-682-547-04	SCREW +BVTT 3X6 (S)	
#6	7-682-560-04	SCREW +BVTT 4X6 (S)	
#7	7-621-772-10	SCREW +B 2X4	
#8	7-621-772-00	SCREW +B 2X3	
#9	7-682-545-09	SCREW +B 3X4	
#10	7-621-255-45	SCREW +P 2X6	
#11	7-621-775-08	SCREW +B 2.6X3	
#12	7-621-773-86	SCREW +B 2.6X4	
#13	7-621-775-20	SCREW +B 2.6X5	
#14	7-682-147-15	SCREW, TR	
#15	7-621-255-20	SCREW +BVTT 2X4 (S)	
#16	7-627-854-07	PRECISION SCREW +P 2X2.5 TYPE3	
#17	7-627-556-17	SCREW, PRECISION +P 2.6X3 TYPE1	
#18	7-627-852-27	+P 1.7X3	
#19	7-621-255-15	SCREW +P 2X3	
#20	7-627-552-27	SCREW, PRECISION +P 1.7X2	
#21	7-627-552-47	SCREW, PRECISION +P 1.7X4	
#22	7-621-772-08	SCREW +B 2X3	
#23	7-621-772-18	SCREW +B 2X4	
#24	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#25	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#26	7-621-775-10	SCREW +B 2.6X4	
#27	7-621-259-39	SCREW +P 2.6X5	
#28	7-682-660-09	SCREW +PS 4X6	
#29	7-684-024-04	N 4, TYPE 2	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

9-956-675-11

Sony Corporation
Audio Group

English
91J1918-1
Printed in Japan

Published by Customer Relations and Service Group

PCM-2300

SONY

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model

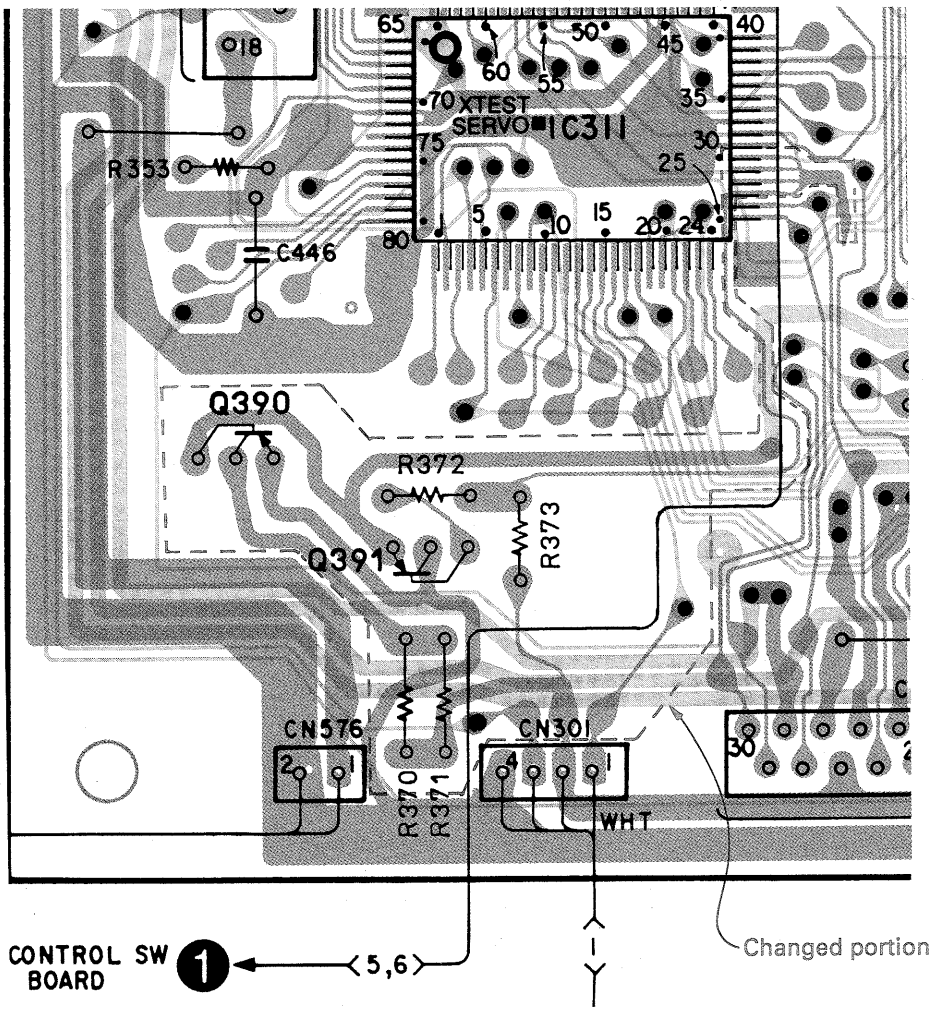
SUPPLEMENT-1

File this supplement with the service manual.

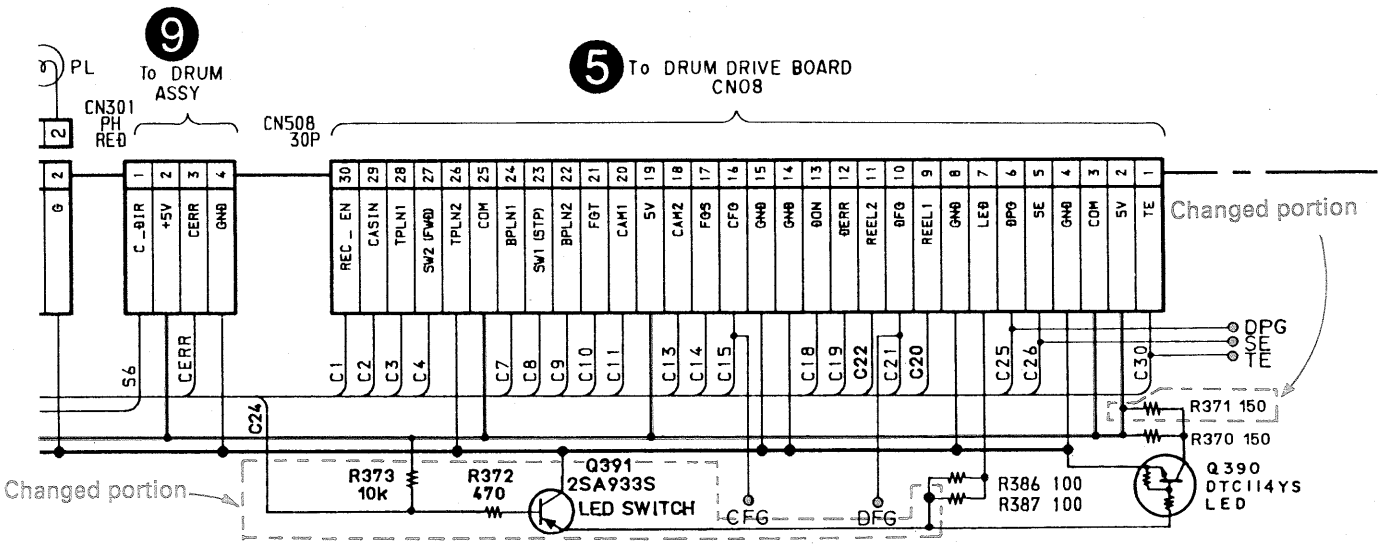
Addition of Main board : Printed Wiring Board and Schematic Diagram

	Ref.No	Part.No	Description			
Parts of Addition	R371	1-249-407-11	CARBON	150	5%	1/4W
	R372	1-249-413-11	CARBON	470	5%	1/4W
	R373	1-249-429-11	CARBON	10k	5%	1/4W
	Q391	8-729-119-76	TRANSISTOR	2SA1175-HFE		

PRINTED WIRING BOARD



SCHEMATIC DIAGRAM



English
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Printed in Japan

Sony Corporation
Audio Group

9-956-675-82

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PCM-2300

SONY

SERVICE MANUAL

US Model
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UK Model

SUPPLEMENT-2

File this supplement with the service manual.

1. Service Manual Correction
2. FWD torque adjustment procedure change
3. Circuit design and board change (SUB board)
4. Addition part and change of part

1. Service Manual Correction

☛ : Corrected portion

Page	Incorrect	Correct
20	**FWD Torque Check** **Check Procedure:** 3. Confirm that the FWD torque value (take-up side rewinding torque) is between 10 – 20 g·cm (0.14 – 0.28 oz·inch).	**FWD Torque Check** **Check Procedure:** 3. Confirm that the FWD torque value (take-up side rewinding torque) is between 10 – 16 g·cm (0.14 – 0.22 oz·inch).
20	**FWD Back Tension Check and Adjustment** **Check procedure:** 3. Confirm that the back tension (supply side) is between 5 – 6 g·cm (0.07 –0.09 oz·inch). If this is not satisfied, adjust back tension by rotating the FWD back tension adjustment screw equipped on the side surface of the mechanical deck. After completion of adjusting, be sure to apply screw lock.	**FWD Back Tension Adjustment** **Adjustment procedure:** 3. Turn the FWD back tension adjustment screw locked on the mechanical deck side so that the minimum value of FWD back tension torque (supply side) is between 4 – 5 g·cm (0.06 – 0.07 oz·inch). Also, make sure that the maximum reading does not exceed 8 g·cm (does not exceed 0.11 oz·inch). After completion of adjusting, be sure to apply screw lock.

2. FWD torque adjustment procedure change

	Serial Number
US, Canadian model	801, 201 and later
AEP, UK model	600, 451 and later

- Sets with the serial numbers shown above have a new variable resister (RV301) on the sub board which serves for FWD torque adjustment. The adjustment for these sets should therefore be carried out as described below.

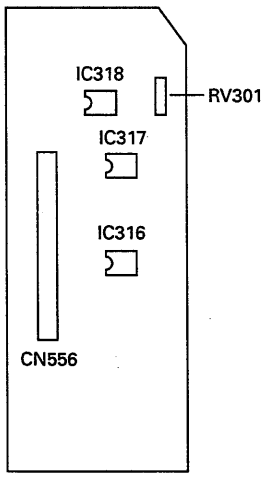
FWD Torque Adjustment:

Adjustment procedure:

1. Put the set into the test mode (main • servo) and load the FWD torque meter TW-7131 (8-909-708-71)
2. Put the set into the PLAY (▶) mode.
3. Adjust RV301 so that the minumum value of FWD take up torque (take-up side rewinding torque) is between 10 – 11 g·cm (0.14 – 0.15 oz·inch).
   Also, make sure that the maximum reading does not exceed 16 g·cm (does not exceed 0.22 oz·inch).
4. Confirm that the value indicated by the torque meter is maintained for one full cycle.

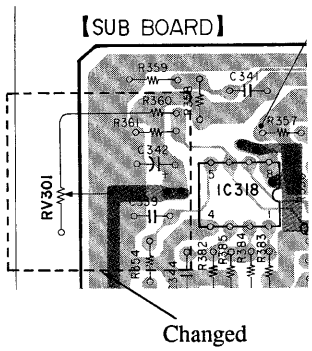
Adjustment point:

– SUB board – (Component side)

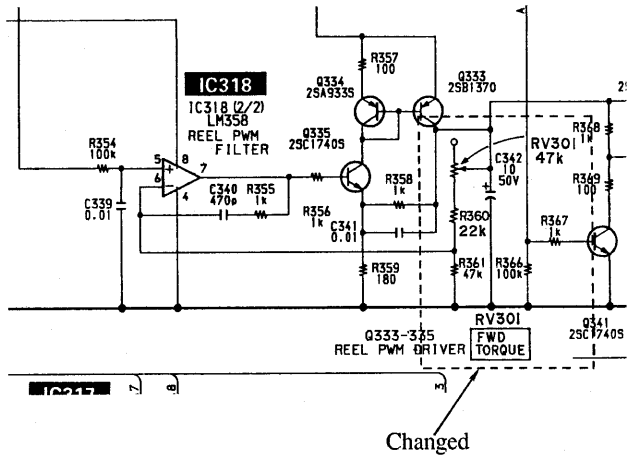


3. Circuit design and board change (SUB board)

Printed Wiring Board



Schematic Diagram



4. Additional part and change of part

Page	Former	New	Remarks
–	–	RV301 1-238-019-11 RES, ADJ, METAL 47K (FWD TORQUE)	Addition
86	R360 43K	R360 1-249-433-11 CARBON 22K 5% 1/4W	Change

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SONY®
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US Model
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SUPPLEMENT-3

File this supplement with the service manual.

Subject:	• **Circuit design and board change (MAIN SECTION)** • **Electrical parts list**

(ECN-TC300248)

1. DIAGRAMS

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	B-10	IC363	D-13
D102	B-10	IC374	C-13
D201	B-10	IC375	C-8
D202	B-10	IC376	E-8
D306	H-8	IC401	C-2
D307	E-6	IC431	F-8
D308	D-6	IC432	H-7
D314	H-8	IC501	G-15
D321	B-5	IC502	G-16
D322	B-5	IC503	G-16
D323	I-8	IC504	E-16
D324	B-5		
D401	C-2	Q301	I-12
D402	C-1	Q302	G-2
D403	E-11	Q311	D-6
D404	C-12	Q312	E-6
D501	F-16	Q313	E-7
D503	E-16	Q318	H-9
		Q319	H-8
IC301	F-13	Q320	H-8
IC302	H-13	Q321	H-8
IC303	I-13	Q333	D-2
IC304	G-13	Q334	E-2
IC305	E-11	Q335	E-3
IC306	G-6	Q336	H-1
IC307	G-11	Q337	H-1
IC308	I-12	Q338	H-2
IC309	G-5	Q339	H-2
IC310	H-10	Q340	H-2
IC311	H-5	Q341	H-1
IC312	D-4	Q342	E-2
IC316	G-2	Q343	I-8
IC317	F-2	Q390	I-4
IC318	E-2	Q391	I-5
IC319	I-8	Q399	D-6
IC320	I-8	Q432	C-6
IC321	F-9	Q433	C-6
IC322	G-9	Q434	C-6
IC330	C-4	Q435	C-6
IC333	G-8	Q436	C-6
IC354	D-10	Q437	C-6
IC355	E-10	Q438	D-6
IC356	D-6	Q439	B-6
IC357	B-12	Q440	I-9
IC358	B-12	Q501	F-16
IC359	B-10	Q502	F-16
IC360	B-9	Q503	E-16
IC361	B-7		
IC362	D-12		

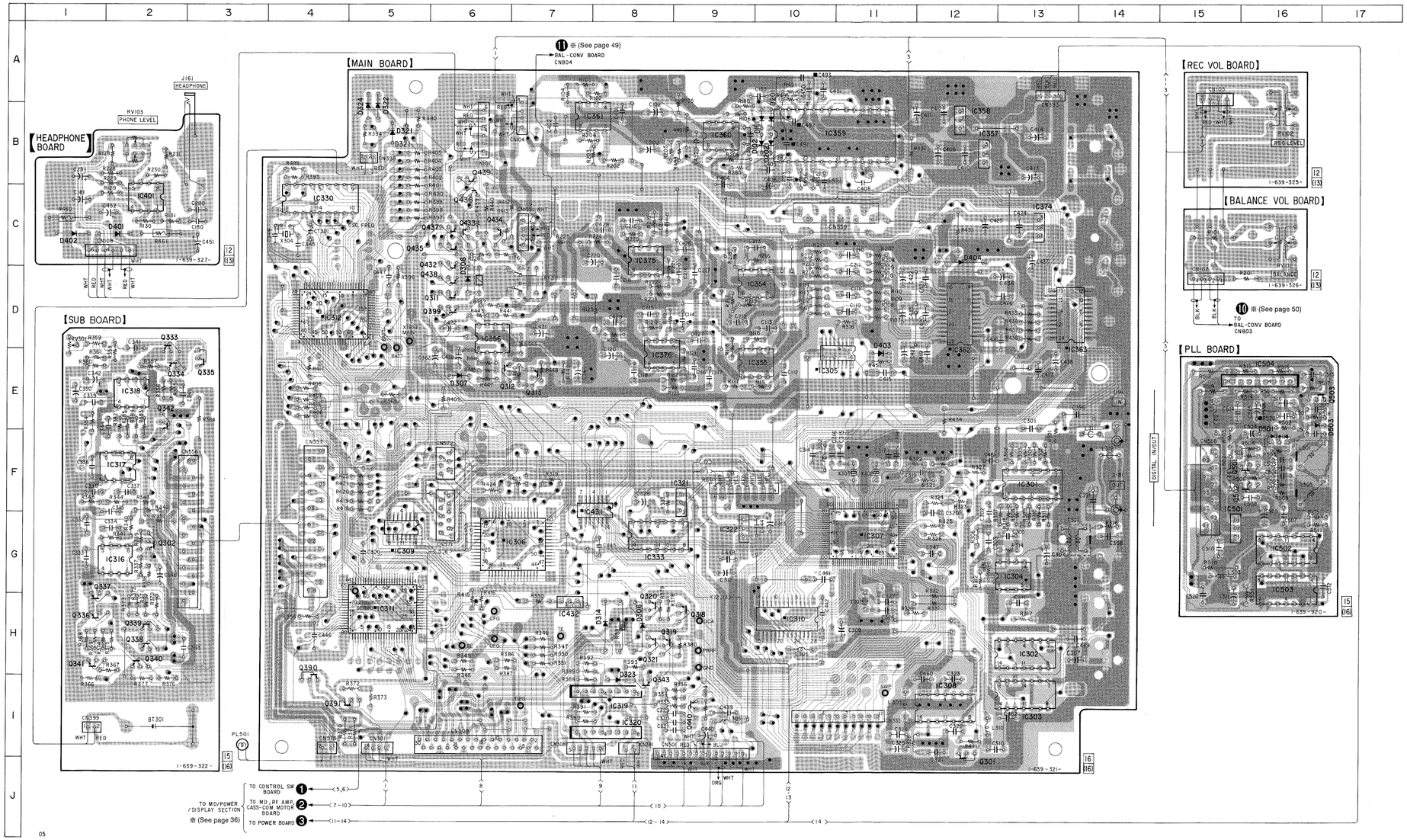
Note on Printed Wiring Board:

- ○——: indicated a lead wire mounted on the component side.
- ●——: indicated a lead wire mounted on the conductor side.
- ■ : parts mounted on the conductor side.
- ⊡ : indicates side identified with part number.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.
- Pages marked with ※ indicate pages in original service manual.

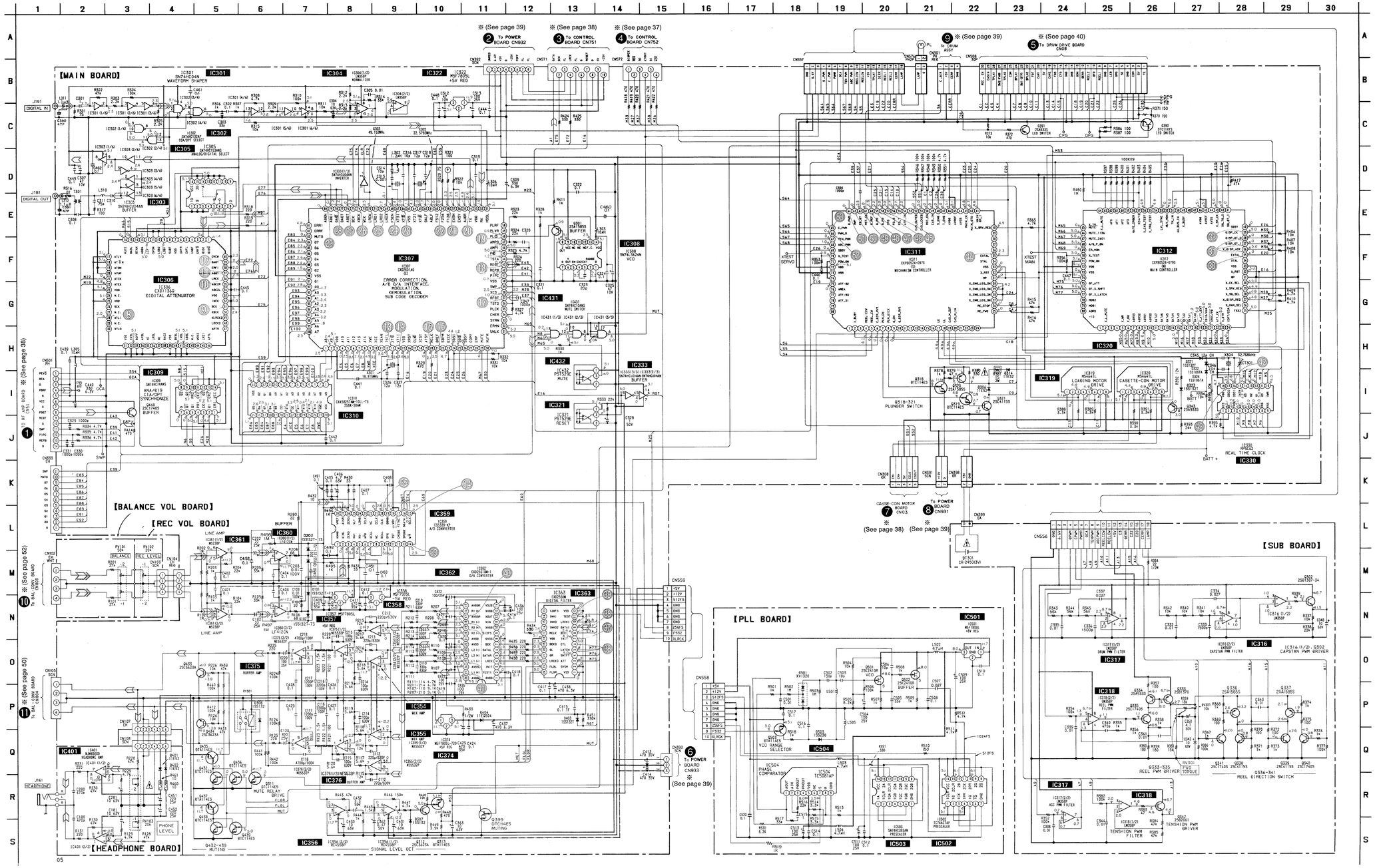
PRINTED WIRING BOARDS

– MAIN SECTION –

• Refer to page 23 for circuit boards location and 31 for semiconductor lead layouts on original service manual.



SCHEMATIC DIAGRAM — MAIN SECTION — • Refer to page 29 for waveforms, 53 for IC block diagrams and 57 for pin functions on original service manual.



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF
  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- : fusible resistor.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B + Line.
- : B − Line.
- Voltages and waveforms are dc with respect to ground under no-signal (STOP) conditions.
  no mark : Stop
  ( ) : PLAY
  < > : REC
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : PB
  : REC
- Pages marked with ※ indicate pages in original service manual.

2. ELECTRICAL PARTS LIST

BALANCE VOL **HEADPHONE** **MAIN**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description				Remark
*	1-639-326-11	BALANCE VOL BOARD				
		**********				
		< CONNECTOR >				
* CN102	1-564-507-11	PLUG, CONNECTOR 4P				
		< RESISTOR >				
R101	1-259-462-11	CARBON	27K	5%	1/6W	
R201	1-259-462-11	CARBON	27K	5%	1/6W	
		< VARIABLE RESISTOR >				
RV101	1-238-687-11	RES, VAR, CARBON 50K/50K (BALANCE)				
**********						
*	1-639-327-11	HEADPHONE BOARD				
		**********				
		< CAPACITOR >				
C180	1-162-290-31	CERAMIC	470PF	10%	50V	
C181	1-126-059-11	ELECT	10uF	20%	63V	
C280	1-162-290-31	CERAMIC	470PF	10%	50V	
C281	1-126-059-11	ELECT	10uF	20%	63V	
C451	1-126-024-11	ELECT	220uF	20%	25V	
C452	1-126-024-11	ELECT	220uF	20%	25V	
		< DIODE >				
D401	8-719-200-82	DIODE 11ES2				
D402	8-719-200-82	DIODE 11ES2				
		< IC >				
IC401	8-759-981-96	IC RC4560D				
		< JACK >				
J161	1-565-327-11	JACK, LARGE TYPE 1P (HEADPHONE)				
		< RESISTOR >				
R128	1-259-468-11	CARBON	47K	5%	1/6W	
R129	1-259-444-11	CARBON	4.7K	5%	1/6W	

Ref.No.	Part No.	Description				Remark
R130	1-259-468-11	CARBON	47K	5%	1/6W	
R131	1-259-412-11	CARBON	220	5%	1/6W	
R228	1-259-468-11	CARBON	47K	5%	1/6W	
R229	1-259-444-11	CARBON	4.7K	5%	1/6W	
R230	1-259-468-11	CARBON	47K	5%	1/6W	
R231	1-259-412-11	CARBON	220	5%	1/6W	
⚠R460	1-212-857-00	FUSIBLE	10	5%	1/4W	F
⚠R461	1-212-857-00	FUSIBLE	10	5%	1/4W	F
		< VARIABLE RESISTOR >				
RV103	1-241-537-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL)				
**********						
*	A-2006-648-A	MAIN BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C102	1-126-233-11	ELECT	22uF	20%	50V	
C103	1-130-955-00	FILM	0.01uF	5%	100V	
C110	1-136-439-11	FILM	330PF	5%	630V	
C111	1-136-439-11	FILM	330PF	5%	630V	
C112	1-136-437-11	FILM	220PF	5%	630V	
C113	1-136-437-11	FILM	220PF	5%	630V	
C114	1-136-433-11	FILM	100PF	5%	630V	
C115	1-136-433-11	FILM	100PF	5%	630V	
C116	1-136-230-00	FILM	0.0022uF	5%	100V	
C117	1-136-228-11	FILM	0.0012uF	5%	100V	
C118	1-136-233-11	FILM	0.0047uF	5%	100V	
C120	1-124-122-11	ELECT	100uF	20%	50V	
C202	1-126-233-11	ELECT	22uF	20%	50V	
C203	1-130-955-00	FILM	0.01uF	5%	100V	
C210	1-136-439-11	FILM	330PF	5%	630V	
C211	1-136-439-11	FILM	330PF	5%	630V	
C212	1-136-437-11	FILM	220PF	5%	630V	
C213	1-136-437-11	FILM	220PF	5%	630V	
C214	1-136-433-11	FILM	100PF	5%	630V	
C215	1-136-433-11	FILM	100PF	5%	630V	
C216	1-136-230-00	FILM	0.0022uF	5%	100V	
C217	1-136-228-11	FILM	0.0012uF	5%	100V	
C218	1-136-233-11	FILM	0.0047uF	5%	100V	

MAIN

Ref. No.	Part No.	Description		Remark	
C220	1-124-122-11	ELECT	100uF	20%	50V
C300	1-162-294-31	CERAMIC	0.001uF	10%	50V
C301	1-136-177-00	FILM	1uF	5%	50V
C302	1-164-159-11	CERAMIC	0.1uF		50V
C303	1-162-211-31	CERAMIC	33PF	5%	50V
C304	1-126-059-11	ELECT	10uF	20%	63V
C305	1-136-153-00	FILM	0.01uF	5%	50V
C307	1-126-022-11	ELECT	47uF	20%	10V
C308	1-164-159-11	CERAMIC	0.1uF		50V
C309	1-124-983-11	ELECT	330uF	20%	6.3V
C310	1-136-177-00	FILM	1uF	5%	50V
C311	1-162-279-31	CERAMIC	75PF	10%	50V
C312	1-126-022-11	ELECT	47uF	20%	10V
C313	1-126-023-11	ELECT	100uF	20%	25V
C314	1-162-199-31	CERAMIC	10PF	5%	50V
C315	1-162-294-31	CERAMIC	0.001uF	10%	50V
C316	1-162-199-31	CERAMIC	10PF	5%	50V
C317	1-162-201-31	CERAMIC	12PF	5%	50V
C318	1-162-201-31	CERAMIC	12PF	5%	50V
C319	1-164-159-11	CERAMIC	0.1uF		50V
C320	1-136-177-00	FILM	1uF	5%	50V
C321	1-136-165-00	FILM	0.1uF	5%	50V
C322	1-164-159-11	CERAMIC	0.1uF		50V
C323	1-162-206-31	CERAMIC	20PF	5%	50V
C324	1-164-159-11	CERAMIC	0.1uF		50V
C325	1-126-022-11	ELECT	47uF	20%	10V
C326	1-162-201-31	CERAMIC	12PF	5%	50V
C327	1-162-201-31	CERAMIC	12PF	5%	50V
C328	1-124-903-11	ELECT	1uF	20%	50V
C329	1-162-294-31	CERAMIC	0.001uF	10%	50V
C330	1-162-294-31	CERAMIC	0.001uF	10%	50V
C331	1-162-294-31	CERAMIC	0.001uF	10%	50V
C345	1-162-201-31	CERAMIC	12PF	5%	50V
C346	1-162-206-31	CERAMIC	20PF	5%	50V
C347	1-162-294-31	CERAMIC	0.001uF	10%	50V
C362	1-126-043-11	ELECT	0.47uF	20%	50V
C363	1-126-059-11	ELECT	10uF	20%	63V
C390	1-162-215-31	CERAMIC	47PF	5%	50V
C391	1-162-215-31	CERAMIC	47PF	5%	50V
C401	1-136-165-00	FILM	0.1uF	5%	50V
C402	1-136-165-00	FILM	0.1uF	5%	50V
C403	1-136-165-00	FILM	0.1uF	5%	50V
C404	1-136-165-00	FILM	0.1uF	5%	50V
C405	1-136-165-00	FILM	0.1uF	5%	50V
C406	1-126-058-11	ELECT	4.7uF	20%	63V
C407	1-136-165-00	FILM	0.1uF	5%	50V
C408	1-136-165-00	FILM	0.1uF	5%	50V
C409	1-126-104-11	ELECT	470uF	20%	35V

Ref. No.	Part No.	Description		Remark	
C410	1-136-165-00	FILM	0.1uF	5%	50V
C411	1-126-104-11	ELECT	470uF	20%	35V
C412	1-136-165-00	FILM	0.1uF	5%	50V
C413	1-126-104-11	ELECT	470uF	20%	35V
C414	1-126-104-11	ELECT	470uF	20%	35V
C415	1-136-165-00	FILM	0.1uF	5%	50V
C416	1-136-165-00	FILM	0.1uF	5%	50V
C417	1-164-159-11	CERAMIC	0.1uF		50V
C418	1-136-165-00	FILM	0.1uF	5%	50V
C419	1-136-165-00	FILM	0.1uF	5%	50V
C420	1-136-165-00	FILM	0.1uF	5%	50V
C421	1-136-165-00	FILM	0.1uF	5%	50V
C422	1-126-023-11	ELECT	100uF	20%	25V
C423	1-126-023-11	ELECT	100uF	20%	25V
C424	1-136-165-00	FILM	0.1uF	5%	50V
C425	1-126-104-11	ELECT	470uF	20%	35V
C426	1-136-165-00	FILM	0.1uF	5%	50V
C427	1-136-165-00	FILM	0.1uF	5%	50V
C428	1-136-165-00	FILM	0.1uF	5%	50V
C429	1-136-165-00	FILM	0.1uF	5%	50V
C430	1-126-059-11	ELECT	10uF	20%	63V
C431	1-126-059-11	ELECT	10uF	20%	63V
C432	1-124-273-00	ELECT	3.3uF	20%	50V
C435	1-126-023-11	ELECT	100uF	20%	25V
C436	1-126-023-11	ELECT	100uF	20%	25V
C437	1-124-997-11	ELECT	470uF	20%	6.3V
C438	1-124-997-11	ELECT	470uF	20%	6.3V
C439	1-164-159-11	CERAMIC	0.1uF		50V
C440	1-124-983-11	ELECT	330uF	20%	6.3V
C441	1-164-159-11	CERAMIC	0.1uF		50V
C442	1-164-159-11	CERAMIC	0.1uF		50V
C444	1-164-159-11	CERAMIC	0.1uF		50V
C445	1-164-159-11	CERAMIC	0.1uF		50V
C446	1-164-159-11	CERAMIC	0.1uF		50V
C447	1-164-159-11	CERAMIC	0.1uF		50V
C448	1-164-159-11	CERAMIC	0.1uF		50V
C449	1-164-159-11	CERAMIC	0.1uF		50V
C450	1-136-165-00	FILM	0.1uF	5%	50V
C451	1-136-165-00	FILM	0.1uF	5%	50V
C452	1-136-165-00	FILM	0.1uF	5%	50V
C460	1-164-159-11	CERAMIC	0.1uF		50V
C461	1-164-159-11	CERAMIC	0.1uF		50V
C462	1-164-159-11	CERAMIC	0.1uF		50V
C491	1-164-159-11	CERAMIC	0.1uF		50V
C492	1-164-159-11	CERAMIC	0.1uF		50V
C493	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN104	1-564-507-11	PLUG, CONNECTOR 4P	
* CN105	1-564-507-11	PLUG, CONNECTOR 4P	
* CN107	1-564-509-11	PLUG, CONNECTOR 6P	
* CN301	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
* CN308	1-564-339-00	PIN, CONNECTOR 5P	
* CN333	1-564-514-11	PLUG, CONNECTOR 11P	
* CN398	1-564-336-00	PIN, CONNECTOR 2P	
* CN501	1-564-716-11	PIN, CONNECTOR (SMALL TYPE) 14P	
* CN508	1-568-933-11	SOCKET, CONNECTOR 30P	
CN557	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
CN559	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
* CN571	1-568-829-11	SOCKET, CONNECTOR 10P	
* CN572	1-568-825-11	SOCKET, CONNECTOR 6P	
* CN576	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
		< TRIMMER >	
CT301	1-141-334-11	CAP, VAR, TRIMMER	
		< DIODE >	
D101	8-719-107-94	DIODE 1SS202-1	
D102	8-719-107-94	DIODE 1SS202-1	
D201	8-719-107-94	DIODE 1SS202-1	
D202	8-719-107-94	DIODE 1SS202-1	
D306	8-719-200-82	DIODE 11ES2	
D307	8-719-107-94	DIODE 1SS202-1	
D308	8-719-107-94	DIODE 1SS202-1	
D314	8-719-200-82	DIODE 11ES2	
D321	8-719-107-94	DIODE 1SS202-1	
D322	8-719-911-06	DIODE 1SS106	
D323	8-719-107-94	DIODE 1SS202-1	
D324	8-719-911-06	DIODE 1SS106	
D403	8-719-107-94	DIODE 1SS202-1	
D404	8-719-210-21	DIODE 11EQS04	
		< IC >	
IC301	8-759-917-18	IC SN74HCU04AN	
IC302	8-759-232-49	IC TC74HC132AP	
IC303	8-759-917-18	IC SN74HCU04AN	
IC304	8-759-135-80	IC uPC358C	
IC305	8-759-926-17	IC SN74HC153ANS	
IC306	8-759-947-57	IC CXD1136Q	
IC307	8-752-339-43	IC CXD2601AQ	
IC308	8-759-906-24	IC SN74LS624N	
IC309	8-759-925-90	IC SN74HC74ANS	
IC310	8-752-356-96	IC CXK58257AM-10LL	
IC311	8-752-860-70	IC CXP80524-097Q	
IC312	8-752-843-11	IC CXP80524-079Q	
IC319	8-759-633-65	IC M54641L	
IC320	8-759-633-65	IC M54641L	
IC321	8-759-971-12	IC PST529E	
IC322	8-759-231-53	IC TA7805S	
IC330	8-759-984-34	IC RP5C62	
IC333	8-759-917-18	IC SN74HCU04AN	
IC354	8-759-900-72	IC NE5532P	
IC355	8-759-900-72	IC NE5532P	
IC356	8-759-145-58	IC uPC4558C	
IC357	8-759-231-53	IC TA7805S	
IC358	8-759-245-79	IC TA79005S	
IC359	8-759-504-36	IC CS5339-KP	
IC360	8-759-972-47	IC LF412CN	
IC361	8-759-602-83	IC M5238P	
IC362	8-752-351-20	IC CXD2561BM-1	
IC363	8-752-342-65	IC CXD2560M	
IC374	8-759-634-55	IC M5F7805L-720	
IC375	8-759-900-72	IC NE5532P	
IC376	8-759-900-72	IC NE5532P	
IC431	8-759-925-78	IC SN74HC10ANS	
IC432	8-759-995-76	IC PST529C	
		< JACK >	
J181	1-565-406-41	JACK, PIN 1P (DIGITAL OUT)	
J191	1-568-750-21	JACK, PIN (1P SHIELD TYPE) (DIGITAL IN)	
		< COIL >	
L302	1-410-498-11	INDUCTOR 1.2uH	
L303	1-410-509-11	INDUCTOR 10uH	
L305	1-410-509-11	INDUCTOR 10uH	
L306	1-410-509-11	INDUCTOR 10uH	
L310	1-410-953-11	INDUCTOR, SMALL TYPE	
L311	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH	
L312	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH	
		< TRANSISTOR >	
Q301	8-729-927-11	TRANSISTOR 2SA1585SQR	
Q311	8-729-900-80	TRANSISTOR DTC114ES	
Q312	8-729-107-85	TRANSISTOR 2SC3623A-K	
Q313	8-729-900-61	TRANSISTOR DTA114ES	
Q318	8-729-900-80	TRANSISTOR DTC114ES	
Q319	8-729-900-80	TRANSISTOR DTC114ES	
Q320	8-729-927-11	TRANSISTOR 2SA1585SQR	
Q321	8-729-927-12	TRANSISTOR 2SC4115SQR	
Q343	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q390	8-729-904-36	TRANSISTOR DTC114YS	
Q391	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q399	8-729-900-80	TRANSISTOR DTC114ES	

MAIN

Ref. No.	Part No.	Description				Remark
Q432	8-729-900-80	TRANSISTOR	DTC114ES			
Q433	8-729-107-85	TRANSISTOR	2SC3623A-K			
Q434	8-729-107-85	TRANSISTOR	2SC3623A-K			
Q435	8-729-900-61	TRANSISTOR	DTA114ES			
Q436	8-729-900-80	TRANSISTOR	DTC114ES			
Q437	8-729-900-61	TRANSISTOR	DTA114ES			
Q438	8-729-900-80	TRANSISTOR	DTC114ES			
Q439	8-729-900-80	TRANSISTOR	DTC114ES			
Q440	8-729-119-78	TRANSISTOR	2SC2785-HFE			
		< RESISTOR >				
R102	1-247-903-00	CARBON	1M	5%	1/4W	
R103	1-249-417-11	CARBON	1K	5%	1/4W	
R104	1-249-433-11	CARBON	22K	5%	1/4W	
R105	1-249-435-11	CARBON	33K	5%	1/4W	
R106	1-249-403-11	CARBON	68	5%	1/4W	
R107	1-247-854-11	CARBON	9.1K	5%	1/4W	
R108	1-247-854-11	CARBON	9.1K	5%	1/4W	
R109	1-247-854-11	CARBON	9.1K	5%	1/4W	
R110	1-247-854-11	CARBON	9.1K	5%	1/4W	
R111	1-249-425-11	CARBON	4.7K	5%	1/4W	
R112	1-249-425-11	CARBON	4.7K	5%	1/4W	
R113	1-249-425-11	CARBON	4.7K	5%	1/4W	
R114	1-249-425-11	CARBON	4.7K	5%	1/4W	
R115	1-249-430-11	CARBON	12K	5%	1/4W	
R116	1-249-430-11	CARBON	12K	5%	1/4W	
R117	1-249-426-11	CARBON	5.6K	5%	1/4W	
R118	1-249-426-11	CARBON	5.6K	5%	1/4W	
R119	1-249-426-11	CARBON	5.6K	5%	1/4W	
R120	1-249-426-11	CARBON	5.6K	5%	1/4W	
R121	1-247-807-31	CARBON	100	5%	1/4W	
R122	1-249-419-11	CARBON	1.5K	5%	1/4W	
R123	1-249-419-11	CARBON	1.5K	5%	1/4W	
R124	1-249-441-11	CARBON	100K	5%	1/4W	
R125	1-249-409-11	CARBON	220	5%	1/4W	
R126	1-249-429-11	CARBON	10K	5%	1/4W	
R180	1-249-397-11	CARBON	22	5%	1/4W	
R202	1-247-903-00	CARBON	1M	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-433-11	CARBON	22K	5%	1/4W	
R205	1-249-435-11	CARBON	33K	5%	1/4W	
R206	1-249-403-11	CARBON	68	5%	1/4W	
R207	1-247-854-11	CARBON	9.1K	5%	1/4W	
R208	1-247-854-11	CARBON	9.1K	5%	1/4W	
R209	1-247-854-11	CARBON	9.1K	5%	1/4W	
R210	1-247-854-11	CARBON	9.1K	5%	1/4W	
R211	1-249-425-11	CARBON	4.7K	5%	1/4W	
R212	1-249-425-11	CARBON	4.7K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R213	1-249-425-11	CARBON	4.7K	5%	1/4W	
R214	1-249-425-11	CARBON	4.7K	5%	1/4W	
R215	1-249-430-11	CARBON	12K	5%	1/4W	
R216	1-249-430-11	CARBON	12K	5%	1/4W	
R217	1-249-426-11	CARBON	5.6K	5%	1/4W	
R218	1-249-426-11	CARBON	5.6K	5%	1/4W	
R219	1-249-426-11	CARBON	5.6K	5%	1/4W	
R220	1-249-426-11	CARBON	5.6K	5%	1/4W	
R221	1-247-807-31	CARBON	100	5%	1/4W	
R222	1-249-419-11	CARBON	1.5K	5%	1/4W	
R223	1-249-419-11	CARBON	1.5K	5%	1/4W	
R224	1-249-441-11	CARBON	100K	5%	1/4W	
R225	1-249-409-11	CARBON	220	5%	1/4W	
R226	1-249-429-11	CARBON	10K	5%	1/4W	
R280	1-249-397-11	CARBON	22	5%	1/4W	
R301	1-247-804-11	CARBON	75	5%	1/4W	
R302	1-249-437-11	CARBON	47K	5%	1/4W	
R303	1-249-421-11	CARBON	2.2K	5%	1/4W	
R304	1-249-441-11	CARBON	100K	5%	1/4W	
R305	1-249-421-11	CARBON	2.2K	5%	1/4W	
R306	1-249-417-11	CARBON	1K	5%	1/4W	
R307	1-249-417-11	CARBON	1K	5%	1/4W	
R308	1-249-425-11	CARBON	4.7K	5%	1/4W	
R309	1-249-421-11	CARBON	2.2K	5%	1/4W	
R310	1-249-441-11	CARBON	100K	5%	1/4W	
R311	1-249-429-11	CARBON	10K	5%	1/4W	
R312	1-249-421-11	CARBON	2.2K	5%	1/4W	
R313	1-249-421-11	CARBON	2.2K	5%	1/4W	
R314	1-249-435-11	CARBON	33K	5%	1/4W	
R315	1-249-429-11	CARBON	10K	5%	1/4W	
R316	1-249-397-11	CARBON	22	5%	1/4W	
R317	1-247-807-31	CARBON	100	5%	1/4W	
R318	1-249-409-11	CARBON	220	5%	1/4W	
R319	1-249-409-11	CARBON	220	5%	1/4W	
R320	1-247-804-11	CARBON	75	5%	1/4W	
R321	1-247-807-31	CARBON	100	5%	1/4W	
R322	1-249-429-11	CARBON	10K	5%	1/4W	
R323	1-249-433-11	CARBON	22K	5%	1/4W	
R324	1-249-433-11	CARBON	22K	5%	1/4W	
R325	1-249-425-11	CARBON	4.7K	5%	1/4W	
R326	1-249-409-11	CARBON	220	5%	1/4W	
R327	1-249-425-11	CARBON	4.7K	5%	1/4W	
R328	1-249-417-11	CARBON	1K	5%	1/4W	
R329	1-249-413-11	CARBON	470	5%	1/4W	
R330	1-249-417-11	CARBON	1K	5%	1/4W	
R331	1-249-429-11	CARBON	10K	5%	1/4W	
R332	1-249-429-11	CARBON	10K	5%	1/4W	
R333	1-249-433-11	CARBON	22K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R334	1-249-425-11	CARBON	4.7K	5%	1/4W	
R335	1-249-425-11	CARBON	4.7K	5%	1/4W	
R336	1-249-425-11	CARBON	4.7K	5%	1/4W	
R346	1-249-441-11	CARBON	100K	5%	1/4W	
R347	1-249-441-11	CARBON	100K	5%	1/4W	
R348	1-249-441-11	CARBON	100K	5%	1/4W	
R349	1-249-441-11	CARBON	100K	5%	1/4W	
R350	1-249-425-11	CARBON	4.7K	5%	1/4W	
R351	1-249-425-11	CARBON	4.7K	5%	1/4W	
R353	1-249-441-11	CARBON	100K	5%	1/4W	
R365	1-249-425-11	CARBON	4.7K	5%	1/4W	
R370	1-249-407-11	CARBON	150	5%	1/4W	
R371	1-249-407-11	CARBON	150	5%	1/4W	
R372	1-249-413-11	CARBON	470	5%	1/4W	
R373	1-249-429-11	CARBON	10K	5%	1/4W	
R378	1-249-417-11	CARBON	1K	5%	1/4W	
R379	1-249-401-11	CARBON	47	5%	1/4W	
R380	1-249-411-11	CARBON	330	5%	1/4W	
⚠R381	1-215-881-11	METAL OXIDE	15	5%	2W	F
R386	1-247-807-31	CARBON	100	5%	1/4W	
R387	1-247-807-31	CARBON	100	5%	1/4W	
R388	1-249-423-11	CARBON	3.3K	5%	1/4W	
R389	1-249-423-11	CARBON	3.3K	5%	1/4W	
R390	1-249-423-11	CARBON	3.3K	5%	1/4W	
R391	1-249-423-11	CARBON	3.3K	5%	1/4W	
R392	1-249-430-11	CARBON	12K	5%	1/4W	
R393	1-247-864-11	CARBON	24K	5%	1/4W	
R394	1-249-429-11	CARBON	10K	5%	1/4W	
R395	1-249-425-11	CARBON	4.7K	5%	1/4W	
R396	1-249-441-11	CARBON	100K	5%	1/4W	
R397	1-249-441-11	CARBON	100K	5%	1/4W	
R398	1-249-441-11	CARBON	100K	5%	1/4W	
R399	1-249-441-11	CARBON	100K	5%	1/4W	
R400	1-249-441-11	CARBON	100K	5%	1/4W	
R401	1-249-441-11	CARBON	100K	5%	1/4W	
R402	1-249-441-11	CARBON	100K	5%	1/4W	
R403	1-249-441-11	CARBON	100K	5%	1/4W	
R404	1-249-441-11	CARBON	100K	5%	1/4W	
R405	1-249-441-11	CARBON	100K	5%	1/4W	
R406	1-249-429-11	CARBON	10K	5%	1/4W	
R407	1-249-429-11	CARBON	10K	5%	1/4W	
R408	1-249-429-11	CARBON	10K	5%	1/4W	
R409	1-249-425-11	CARBON	4.7K	5%	1/4W	
R410	1-249-425-11	CARBON	4.7K	5%	1/4W	
R411	1-249-417-11	CARBON	1K	5%	1/4W	
R412	1-249-441-11	CARBON	100K	5%	1/4W	
R413	1-249-437-11	CARBON	47K	5%	1/4W	
R414	1-249-413-11	CARBON	470	5%	1/4W	
R415	1-249-437-11	CARBON	47K	5%	1/4W	
R416	1-249-437-11	CARBON	47K	5%	1/4W	
R417	1-249-437-11	CARBON	47K	5%	1/4W	
R418	1-249-413-11	CARBON	470	5%	1/4W	
R419	1-249-413-11	CARBON	470	5%	1/4W	
R420	1-249-413-11	CARBON	470	5%	1/4W	
R421	1-249-413-11	CARBON	470	5%	1/4W	
R422	1-249-413-11	CARBON	470	5%	1/4W	
R424	1-249-411-11	CARBON	330	5%	1/4W	
R425	1-249-411-11	CARBON	330	5%	1/4W	
R430	1-249-399-11	CARBON	33	5%	1/4W	
R431	1-249-399-11	CARBON	33	5%	1/4W	
R432	1-249-393-11	CARBON	10	5%	1/4W	
R433	1-216-349-00	CARBON	1	5%	1/2W	
R434	1-249-411-11	CARBON	330	5%	1/4W	
R435	1-249-409-11	CARBON	220	5%	1/4W	
R436	1-249-409-11	CARBON	220	5%	1/4W	
R437	1-249-409-11	CARBON	220	5%	1/4W	
R438	1-249-409-11	CARBON	220	5%	1/4W	
R439	1-249-437-11	CARBON	47K	5%	1/4W	
R440	1-249-441-11	CARBON	100K	5%	1/4W	
R441	1-249-441-11	CARBON	100K	5%	1/4W	
R442	1-249-441-11	CARBON	100K	5%	1/4W	
R443	1-249-437-11	CARBON	47K	5%	1/4W	
R444	1-249-417-11	CARBON	1K	5%	1/4W	
R445	1-249-419-11	CARBON	1.5K	5%	1/4W	
R446	1-247-883-00	CARBON	150K	5%	1/4W	
R447	1-249-425-11	CARBON	4.7K	5%	1/4W	
R448	1-249-413-11	CARBON	470	5%	1/4W	
R449	1-249-424-11	CARBON	3.9K	5%	1/4W	
R451	1-247-891-00	CARBON	330K	5%	1/4W	
R460	1-249-429-11	CARBON	10K	5%	1/4W	
R480	1-247-903-00	CARBON	1M	5%	1/4W	
R495	1-249-417-11	CARBON	1K	5%	1/4W	
R496	1-249-417-11	CARBON	1K	5%	1/4W	
R497	1-247-903-00	CARBON	1M	5%	1/4W	
R498	1-247-903-00	CARBON	1M	5%	1/4W	
R499	1-249-429-11	CARBON	10K	5%	1/4W	

< RELAY >

RY301	1-515-726-11	RELAY

< COIL >

T301	1-459-795-11	COIL (WITH CORE)

< VIBRATOR >

X301	1-567-816-11	VIBRATOR, CRYSTAL (18.816MHz)
X302	1-567-815-11	VIBRATOR, CRYSTAL (22.5792MHz)

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MAIN **PLL** **REC VOL** **SUB**

Ref. No.	Part No.	Description			Remark
X303	1-578-667-11	VIBRATOR, CRYSTAL (49.152MHz)			
X304	1-567-098-41	VIBRATOR, CRYSTAL (32.768KHz)			
**********					
*	1-639-920-11	PLL BOARD			
		*********			
		< CAPACITOR >			
C501	1-136-153-00	FILM	0.01uF	5%	50V
C502	1-162-284-31	CERAMIC	150PF	10%	50V
C503	1-162-199-31	CERAMIC	10PF	5%	50V
C504	1-126-023-11	ELECT	100uF	20%	25V
C505	1-162-211-31	CERAMIC	33PF	5%	50V
C506	1-162-199-31	CERAMIC	10PF	5%	50V
C507	1-136-158-00	FILM	0.027uF	5%	50V
C508	1-136-165-00	FILM	0.1uF	5%	50V
C509	1-126-023-11	ELECT	100uF	20%	25V
C510	1-136-165-00	FILM	0.1uF	5%	50V
C511	1-126-023-11	ELECT	100uF	20%	25V
C512	1-164-159-11	CERAMIC	0.1uF		50V
C513	1-126-023-11	ELECT	100uF	20%	25V
C514	1-136-165-00	FILM	0.1uF	5%	50V
C515	1-136-177-00	FILM	1uF	5%	50V
C516	1-136-165-00	FILM	0.1uF	5%	50V
C517	1-164-159-11	CERAMIC	0.1uF		50V
C520	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
* CN558	1-573-299-11	CONNECTOR, BOARD TO BOARD 10P			
		< DIODE >			
D501	8-719-901-59	DIODE KV1320			
D503	8-719-903-27	DIODE 1SS168			
		< IC >			
IC501	8-759-604-30	IC M5F7808L			
IC502	8-759-243-64	IC TC74AC74P			
IC503	8-759-917-11	IC SN74HC393AN			
IC504	8-759-250-81	IC TC5081AP			
		< COIL >			
L501	1-460-042-11	COIL (WITH CORE)			
L502	1-410-324-11	INDUCTOR	4.7uH		
L503	1-410-324-11	INDUCTOR	4.7uH		
L504	1-410-324-11	INDUCTOR	4.7uH		
L505	1-460-042-11	COIL (WITH CORE)			
		< TRANSISTOR >			
Q501	8-729-200-56	TRANSISTOR 2SK241-GR			
Q502	8-729-200-56	TRANSISTOR 2SK241-GR			
Q503	8-729-900-61	TRANSISTOR DTA114ES			
		< RESISTOR >			
R501	1-249-417-11	CARBON	1K	5%	1/4W
R502	1-247-903-00	CARBON	1M	5%	1/4W
R503	1-247-903-00	CARBON	1M	5%	1/4W
R504	1-249-429-11	CARBON	10K	5%	1/4W
R505	1-249-428-11	CARBON	8.2K	5%	1/4W
R506	1-249-441-11	CARBON	100K	5%	1/4W
R507	1-249-417-11	CARBON	1K	5%	1/4W
R508	1-249-417-11	CARBON	1K	5%	1/4W
R509	1-249-417-11	CARBON	1K	5%	1/4W
R510	1-249-407-11	CARBON	150	5%	1/4W
R511	1-249-425-11	CARBON	4.7K	5%	1/4W
R512	1-249-425-11	CARBON	4.7K	5%	1/4W
R513	1-249-417-11	CARBON	1K	5%	1/4W
R514	1-249-423-11	CARBON	3.3K	5%	1/4W
R515	1-249-423-11	CARBON	3.3K	5%	1/4W
R516	1-249-433-11	CARBON	22K	5%	1/4W
R517	1-249-435-11	CARBON	33K	5%	1/4W
R518	1-249-417-11	CARBON	1K	5%	1/4W
R519	1-249-417-11	CARBON	1K	5%	1/4W
R520	1-247-850-11	CARBON	6.2K	5%	1/4W
R551	1-249-411-11	CARBON	330	5%	1/4W
**********					
*	1-639-325-11	REC VOL BOARD			
		**********			
		< VARIABLE RESISTOR >			
RV102	1-238-833-21	RES, VAR, CARBON 20K/20K (REC LEVEL)			
**********					
*	A-2006-553-A	SUB BOARD, COMPLETE			
		**********			
		< BATTERY >			
⚠BT301	1-528-229-11	BATTERY, LITHIUM (CR-2450)			
		< CAPACITOR >			
C332	1-136-153-00	FILM	0.01uF	5%	50V
C333	1-130-473-00	MYLAR	0.0015uF	5%	50V
C334	1-136-158-00	FILM	0.027uF	5%	50V
C335	1-136-153-00	FILM	0.01uF	5%	50V
C336	1-130-473-00	MYLAR	0.0015uF	5%	50V
C337	1-136-158-00	FILM	0.027uF	5%	50V
C338	1-162-306-11	CERAMIC	0.01uF	20%	16V
C339	1-162-306-11	CERAMIC	0.01uF	20%	16V

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SUB

Ref. No.	Part No.	Description			Remark
C340	1-162-290-31	CERAMIC	470PF	10%	50V
C341	1-162-306-11	CERAMIC	0.01uF	20%	16V
C342	1-126-059-11	ELECT	10uF	20%	63V
C343	1-162-306-11	CERAMIC	0.01uF	20%	16V
C344	1-162-306-11	CERAMIC	0.01uF	20%	16V
C348	1-126-059-11	ELECT	10uF	20%	63V
C350	1-126-163-11	ELECT	4.7uF	20%	50V
		< CONNECTOR >			
CN556	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P			
		< IC >			
IC316	8-759-135-80	IC uPC358C			
IC317	8-759-135-80	IC uPC358C			
IC318	8-759-135-80	IC uPC358C			
		< TRANSISTOR >			
Q302	8-729-801-93	TRANSISTOR	2SD1387-3		
Q333	8-729-024-94	TRANSISTOR	2SB1565F		
Q334	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q335	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q336	8-729-927-11	TRANSISTOR	2SA1585SQR		
Q337	8-729-927-11	TRANSISTOR	2SA1585SQR		
Q338	8-729-927-12	TRANSISTOR	2SC4115SQR		
Q339	8-729-927-12	TRANSISTOR	2SC4115SQR		
Q340	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q341	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q342	8-729-209-15	TRANSISTOR	2SD2012		
		< RESISTOR >			
R337	1-249-429-11	CARBON	10K	5%	1/4W
R338	1-249-433-11	CARBON	22K	5%	1/4W
R339	1-249-401-11	CARBON	47	5%	1/4W
R340	1-249-429-11	CARBON	10K	5%	1/4W
R341	1-249-429-11	CARBON	10K	5%	1/4W
R342	1-249-429-11	CARBON	10K	5%	1/4W
R343	1-249-438-11	CARBON	56K	5%	1/4W
R344	1-249-438-11	CARBON	56K	5%	1/4W
R345	1-249-438-11	CARBON	56K	5%	1/4W
R352	1-249-441-11	CARBON	100K	5%	1/4W
R354	1-249-441-11	CARBON	100K	5%	1/4W
R355	1-249-417-11	CARBON	1K	5%	1/4W
R356	1-249-417-11	CARBON	1K	5%	1/4W
R357	1-247-807-31	CARBON	100	5%	1/4W
R358	1-249-417-11	CARBON	1K	5%	1/4W
R359	1-249-432-11	CARBON	18K	5%	1/4W
R360	1-249-408-11	CARBON	180	5%	1/4W
R361	1-249-431-11	CARBON	15K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R364	1-247-731-11	CARBON	22	5%	1/2W
R366	1-249-441-11	CARBON	100K	5%	1/4W
R367	1-249-417-11	CARBON	1K	5%	1/4W
R368	1-249-417-11	CARBON	1K	5%	1/4W
R369	1-247-807-31	CARBON	100	5%	1/4W
R370	1-247-807-31	CARBON	100	5%	1/4W
R371	1-249-417-11	CARBON	1K	5%	1/4W
R372	1-247-807-31	CARBON	100	5%	1/4W
R373	1-249-417-11	CARBON	1K	5%	1/4W
R374	1-249-417-11	CARBON	1K	5%	1/4W
R375	1-247-807-31	CARBON	100	5%	1/4W
R376	1-249-417-11	CARBON	1K	5%	1/4W
R377	1-249-441-11	CARBON	100K	5%	1/4W
R382	1-249-441-11	CARBON	100K	5%	1/4W
R383	1-249-401-11	CARBON	47	5%	1/4W
R384	1-249-437-11	CARBON	47K	5%	1/4W
R385	1-249-437-11	CARBON	47K	5%	1/4W
		< VARIABLE RESISTOR >			
RV301	1-230-721-11	RES, ADJ, CARBON 10K (FWD TORQUE)			

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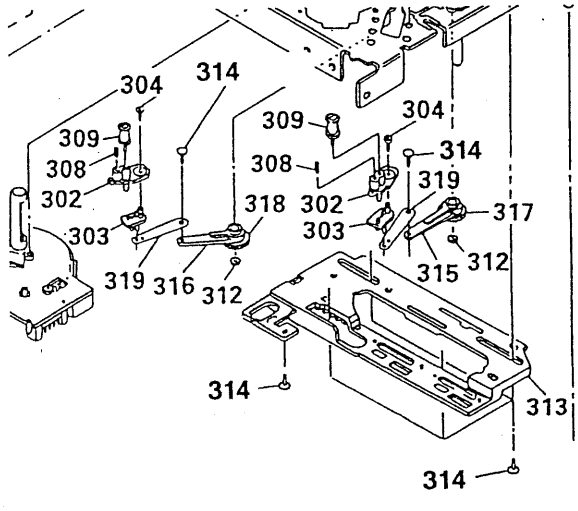
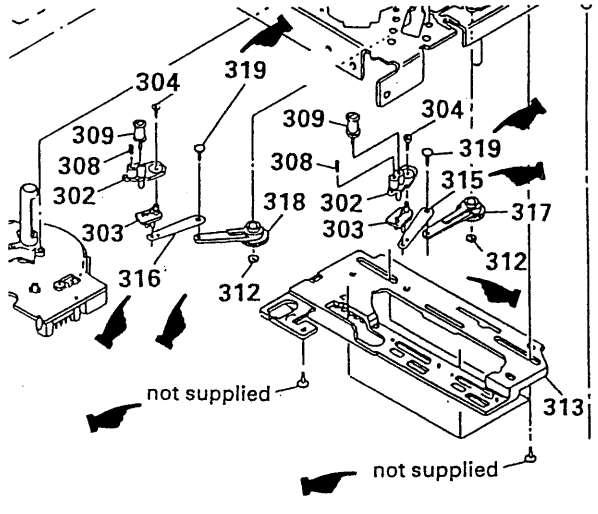
SONY
SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model

CORRECTION-1

Correct your service manual as shown below.

☛ : indicates corrected portion.

Page	INCORRECT	CORRECT
72		

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